

FRMC – Overview over the 44 sources of resilience

This document summarizes each of our 44 sources of resilience including name, definition, assessment notes as well as associated questions for data collection

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Author: FRMC Work Stream; Michael Szönyi – Zurich, Adriana Keating – IIASA

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Read me

This document solely summarizes the 44 sources of resilience and its affiliated content for a quick and central review. It is not a standalone document nor a replacement of the user guide or training on how to use the FRMC. Please consult the corresponding documentation at <https://floodresilience.net/frmc>

The 44 sources of resilience at a glance

Source Name	Capital code	4R	DRM cycle	Theme
Household asset recovery	F01	Redundancy	Recovery	Assets
Community disaster fund	F02	Resourcefulness	Recovery	Governance
Business continuity	F03	Rapidity	Preparedness	Livelihoods
Household income continuity strategy	F04	Redundancy	Preparedness	Livelihoods
Risk reduction investments	F05	Robustness	Corrective Risk Reduction	Assets
Disaster response budget	F06	Rapidity	Response	Governance
Conservation budget	F07	Robustness	Prospective Risk Reduction	Natural Environment
Evacuation and safety knowledge	H01	Robustness	Preparedness	Life and Health
First aid knowledge	H02	Robustness	Preparedness	Life and Health
Education commitment during floods	H03	Resourcefulness	Prospective Risk Reduction	Livelihoods
Flood exposure awareness	H04	Resourcefulness	Corrective Risk Reduction	Assets
Asset protection knowledge	H05	Robustness	Corrective Risk Reduction	Assets
Future flood risk awareness	H06	Robustness	Prospective Risk Reduction	Assets
Water and sanitation awareness	H07	Robustness	Response	Life and Health
Environmental management awareness	H08	Resourcefulness	Prospective Risk Reduction	Natural Environment
Governance awareness	H09	Resourcefulness	Corrective Risk Reduction	Social Norms
Natural capital condition	N01	Redundancy	Prospective Risk Reduction	Natural Environment
Priority natural units	N02	Robustness	Prospective Risk Reduction	Natural Environment
Priority managed units	N03	Robustness	Corrective Risk Reduction	Natural Environment
Natural resource conservation	N04	Resourcefulness	Prospective Risk Reduction	Governance
Natural habitat restoration	N05	Resourcefulness	Corrective Risk Reduction	Governance
Flood healthcare access	P01	Robustness	Response	Life and Health
Early Warning Systems (EWS)	P02	Robustness	Preparedness	Life and Health
Flood emergency infrastructure	P03	Resourcefulness	Preparedness	Life and Health
Provision of education	P04	Robustness	Recovery	Livelihoods
Household flood protection	P05	Robustness	Corrective Risk Reduction	Assets

Large scale flood protection	P06	Robustness	Corrective Risk Reduction	Assets
Transportation interruption	P07	Redundancy	Response	Lifelines
Communication interruption	P08	Rapidity	Response	Lifelines
Flood emergency food supply	P09	Robustness	Response	Lifelines
Flood safe water	P10	Robustness	Response	Lifelines
Flood waste contamination	P11	Robustness	Response	Lifelines
Flood energy supply	P12	Redundancy	Recovery	Lifelines
Community participation in flood related activities	S01	Resourcefulness	Preparedness	Life and Health
External flood response and recovery services	S02	Resourcefulness	Preparedness	Life and Health
Community safety	S03	Robustness	Recovery	Life and Health
Community disaster risk management planning	S04	Rapidity	Prospective Risk Reduction	Governance
Community structures for mutual assistance	S05	Resourcefulness	Response	Social Norms
Community representative bodies	S06	Resourcefulness	Corrective Risk Reduction	Governance
Social inclusiveness	S07	Resourcefulness	Corrective Risk Reduction	Social Norms
Local leadership	S08	Resourcefulness	Prospective Risk Reduction	Governance
Inter-community flood coordination	S09	Resourcefulness	Preparedness	Social Norms
Integrated flood management planning	S10	Resourcefulness	Corrective Risk Reduction	Governance
National forecasting policy & plan	S11	Resourcefulness	Preparedness	Governance

The 44 sources one by one

Financial Capital – F01: Household asset recovery

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Redundancy	Community Level	Recovery	Assets	No	Yes

Definition: This source measures whether the people in the community have a way to recover their assets should a flood event occur without having to resort to negative coping strategies (i.e. selling off productive assets, etc.). This could be in the form of savings or investments (monetary or non-monetary), available credit lines (loans) at formal or informal institutions, or having an insurance policy in place (either with a company or a mutual insurance arrangement that has been pre-established).

Notes: When grading this source, think about the financial assets within the community. The source is gauging whether households have an adequate way to 'self-insure' (i.e. through savings, credit or loan access), to 'mutually insure' (e.g., through remittances) or to have insurance (either formal or informal) that would allow them to recover lost or damaged assets without having to resort to negative coping strategies such as, for example, selling productive assets or engaging in risky livelihoods. Note however, if the community typically saves for emergencies with livestock or some other non-monetary resources and this is adequate for the recovery of lost or damaged assets (i.e. they can be easily sold or traded for lost assets) and their sale does not hinder their livelihoods or income stream in some other way, then this should also be considered as a form of 'self insurance'. It is also important to consider whether the percentage of the population that may not have the means to protect their assets are mainly from relevant vulnerable groups (physically, socially or economically vulnerable). If so, this inequality should be taken into consideration when grading.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
More than 80% of households have a way to recover their assets either through insurance or savings (i.e. an emergency fund) and this is inclusive of all relevant vulnerable (physically, socially or economically vulnerable) groups (i.e., these groups have the opportunity and resources to purchase insurance or to save).	More than 50% up to 80% of households have a way to recover their assets either through insurance or savings (i.e. an emergency fund) and this is inclusive of all relevant vulnerable (physically, socially or economically vulnerable) groups (i.e., these groups have the opportunity and resources to purchase insurance or to save).	20-50% of households, have the means to recover their assets either via insurance or savings (i.e. an emergency fund) and this is inclusive of all relevant vulnerable (physically, socially or economically vulnerable) groups (i.e., these groups have the opportunity and resources to purchase insurance or to save).	Less than 20% have insurance or there is no insurance available either formally or informally to allow people to recover their assets and there is limited opportunity for households to save (i.e. to maintain an emergency fund).

Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	If a flood event occurs that destroys your property, how do you plan to restore it? Please tick all options that apply.	I will use flood insurance. I will use my own emergency money savings. I will sell non-essential assets saved for emergencies. I will get a loan or grant through a government program. I will get a loan from my bank. I will get a loan from a friend or relative outside the community I will get a loan from a relative in the community I have no plans to restore them. Other
Focus Group	Approximately what percentage of people in the community including those from relevant vulnerable groups (physically, socially or economically vulnerable) have some source of funding to repair or replace property damaged or lost due to flood (more than 80%, more than half but less than 80%, less than half but more than 20% or less than 20%)?	Most (over 80%) do including minority or other vulnerable groups Over half but less than 80% do Some (less than half but more than 20%) do but vulnerable groups do not. Less than 20% have a source of funding.
Focus Group	If a flood event occurs that destroys property in this community, how do people typically restore their property? Please tick all options that apply.	They will use flood insurance. They will use their own emergency money savings. They will sell non-essential assets saved for emergencies. They will get a loan or grant through a government program. They will get a loan from a bank. They will get a loan from a friend or relative outside the community They will get a loan from a relative in the community. They have no plans to recover them. None of the above
Key Informant	Approximately what percentage of people in the community including those from relevant vulnerable groups (physically, socially or economically vulnerable) have some source of funding to repair or replace property	Most (over 80%) do including minority or other vulnerable groups Over half but less than 80% do Some (less than half but more than 20%) do but vulnerable groups do not. Less than 20% have a source of funding.



	damaged or lost due to flood (more than 80%, more than half but less than 80%, less than half but more than 20% or less than 20%)?	
2nd Source	Based on your third party research, how much money savings or other form of savings is in the community?	
2nd Source	Based on your research, are there any flood insurance policies in place in the community (formal or mutual arrangements)?	Yes there are both formal and informal insurance arrangements. Yes there are formal insurance arrangements. Yes there are informal insurance arrangements among community members. No
2nd Source	Based on your research, approximately what percentage of people in the community including those from relevant vulnerable groups (physically, socially or economically vulnerable) have some source of funding to repair or replace property damaged or lost due to flood (more than 80%, more than half but less than 80%, less than half but more than 20% or less than 20%)?	Most (over 80%) do including minority or other vulnerable groups Over half but less than 80% do Some (less than half but more than 20%) do but vulnerable groups do not. Less than 20% have a source of funding.



Financial Capital – F02: Community disaster fund

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Resourcefulness	Community Level	Recovery	Governance	Yes	Yes

Definition: This source measures whether there is a budget for members in the community to get emergency funding for response and recovery if their income is disrupted especially for those that are poor or are unable to ‘self-insure’. Note the program can be administered at community, city, municipal or nationally as long as relevant vulnerable groups (physically, socially or economically vulnerable) also have access to it.

Notes: This requires a triangulation of the data looking at both secondary sources beforehand (what might officially be available whether the community is aware of it or not) and also the accessibility of it via asking HH, FG or KI. Note that it is important that relevant vulnerable groups (physically, socially or economically vulnerable) also have access so making sure these groups or representatives for these groups are part of the sample will be important.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
There is a functioning fund. Community members are aware of the program but may or may not know how to access the funds in the event of a flood. Once funds are applied for, disbursement of the funds is quick and adequate for recovery. Relevant vulnerable groups (physically, socially or economically vulnerable) are served by the program.	There is a program but the program does not always function reliably either due to a lack of funding or a complicated bureaucracy. Community members are aware of the program but do not understand how to access the funds in the event of a flood or have confidence that funds will be disbursed in a timely or equitable way. In particular, relevant vulnerable groups (physically, socially or economically vulnerable) are often underserved by the program.	There is a fund but it does not always function reliably either due to a lack of funding or a complicated bureaucracy. Community members can name the fund but do not understand how to access the funds in the event of a flood or have confidence that funds will be disbursed in a timely or equitable way. In particular, relevant vulnerable groups (physically, socially or economically vulnerable) are often underserved by the program.	There is no fund or community members are not aware of the fund.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Do you know of a government fund or any other fund that provides funding after a flood and if so how quickly can people access funds?	I know of one and it is an easy and quick process I know of one but it is a difficult process but once the process is completed funds arrive quickly. I know of one and it is not difficult but takes too long to get the funds. I know of one but it is a slow process and it is difficult to access funds. None of the above
Household	Do those who are most in need regardless of who they are receive money?	Yes No I don't know
Focus Group	Do people in this community know of a government fund or any other fund that provides funding after a flood and if so how quickly can people access funds?	They know of one and it is an easy and quick process They know of one but it is a difficult process but once the process is completed funds arrive quickly. They know of one and it is not difficult to apply but takes too long to get the funds. They know of one but it is a slow process and it is difficult to access funds. None of the above
Focus Group	Do those who are most in need regardless of who they are receive money?	Yes No I don't know
Key Informant	Do people in this community know of a government fund or any other fund that provides funding after a flood and if so how quickly can people access funds?	They know of one and it is an easy and quick process They know of one but it is a difficult process but once the process is completed funds arrive quickly. They know of one and it is not difficult to apply but takes too long to get the funds. They know of one but it is a slow process and it is difficult to access funds. None of the above
Key Informant	Do those who are most in need regardless of who they are receive money?	Yes No I don't know

2nd Source	Based on your secondary source research, are there any government funds or other funds budgeted that provide funding to vulnerable community members in the event of a flood?	Yes No I don't know
2nd Source	Based on your research from the last flood event, comment on the following: a) are the funds means-tested? b)How many people received funding in the last flood event? c) How long did it take for the funds to be disbursed after the last flood event?	
2nd Source	Do those who are most in need regardless of who they are receive money?	Yes No I don't know



Financial Capital – F03: Business continuity

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Rapidity	Community Level	Preparedness	Livelihoods		

Definition: This source measures whether businesses in the community have contingency plans in place to recover their operations and assets should a flood event occur, without having to resort to negative coping strategies (i.e. selling off productive assets) or shutting down completely. This includes having some form of financial resources for the recovery of assets (i.e. insurance, credit, savings, government disaster relief) as part of a continuity strategy for businesses. Note that this may include businesses employing community members but located elsewhere.

Notes: This question might best be answered by a focus group of the business association or a key informant that is part of a business association. Note that employers (businesses) that's providing jobs to the community may be located elsewhere. It is important that these businesses are assessed if they employ a number of community residents in addition to businesses in the community.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
More than 80% of the businesses in the community have a plan for continuing operations in the event of a flood, which includes having an insurance policy that covers floods or an open line of credit at a financial institution (pre-approved loan) that can be drawn upon in the event of a flood or adequate savings in the form of an emergency fund.	More than 50% and up to 80% of the businesses in the community have a plan for continuing operations in the event of a flood, which includes having an insurance policy that covers floods or an open line of credit at a financial institution (pre-approved loan) that can be drawn upon in the event of a flood or adequate savings in the form of an emergency fund.	20-50% of the businesses in the community have a plan for continuing operations in the event of a flood, which includes having an insurance policy that covers floods or an open line of credit at a financial institution (pre-approved loan) that can be drawn upon in the event of a flood or adequate savings in the form of an emergency fund.	Less than 20% of businesses in the community have a plan for continuing operations in the event of a flood, which includes having an insurance policy that covers floods or an open line of credit at a financial institution (pre-approved loan) that can be drawn upon in the event of a flood or adequate savings in the form of an emergency fund.

Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Do you (if you own a business) or your employer have a plan for continuing to operate your business in the event of a flood?	Yes No I don't know
Household	Do you (if you own a business) or your employer have any of the following? Please tick all options that apply.	Flood insurance Business continuity insurance An open line of credit with a financial institution (pre-approved loan) Savings for emergencies (emergency fund) Other None of the above Unsure
Focus Group	Approximately what percentage of businesses or employers have a plan for continuing to operate their business in the event of a flood (more than 80%, more than half but less than 80%, less than half but more than 20% or less than 20%)?	Yes most (over 80%) have a plan Yes many (over half but up to 80%) have a plan Less half but more than 20% of the businesses have a plan Some have a plan but most do not (less than 20%) No they do not I don't know
Focus Group	Do businesses or employers have any of the following? Please tick all options that apply.	Flood insurance Business continuity insurance An open line of credit with a financial institution Savings for emergencies (emergency fund) Other None of the above I don't know
Focus Group	How common is it for businesses in this community to have at least one of these sources of financing in the event of a flood; (that is would you say more than 80% have it, more than half but less than 80%, less than half but more than 20% or less than 20%)?	Most (over 80%) have a source of financing Many (over half) of the businesses probably have at least one source Some (more than 20%) but less than half of businesses have a source Less than 20% businesses have access to any of these sources of financing None of the above
Key Informant	Approximately what percentage of businesses or employers have a plan	Yes most (over 80%) have a plan Yes many (over half but up to 80%) have a plan Less half but at least 20% of the businesses have a plan



	for continuing to operate their business in the event of a flood (more than 80%, more than half but less than 80%, less than half but more than 20% or less than 20%)?	Some have a plan but most do not (less than 20%) No they do not I don't know
Key Informant	Do businesses or employers have any of the following? Please tick all options that apply.	Flood insurance Business continuity insurance An open line of credit with a financial institution Savings for emergencies (emergency fund) Other None of the above I don't know
Key Informant	How common is it for businesses in this community to have at least one of these sources of financing in the event of a flood; (that is would you say more than 80% have it, more than half but less than 80%, less than half but more than 20% or less than 20%)?	Most (over 80%) have a source of financing Many (over half) of the businesses probably have at least one source Some (between 20% - 50%) of businesses have a source Less than 20% businesses have access to any of these sources of financing None of the above
2nd Source	Based on your research, approximately what percentage of businesses or employers have a plan for continuing to operate their business in the event of a flood (more than 80%, more than half but less than 80%, less than half but more than 20% or less than 20%)?	Most (more than 80%) have a plan. Yes many have a plan (more than half but less than 80%) Less than half but more than 20% have a plan Some have a plan but most do not (less than 20%) Don't know/unsure
2nd Source	Based on your third party research, do business have any of the following? Please tick all options that apply.	Flood insurance Business continuity insurance An open line of credit with a financial institution (Pre-approved loan) Savings for emergencies (emergency fund) None of the above
2nd Source	Based on your research, how common is it for businesses in this community to have at least one of these sources of financing in the event of a flood;	Yes most have a source (more than 80% of businesses) More than half of the businesses but not more than 80% probably have at least one source Between 50%-20% of businesses have a source Less than



	(that is would you say more than 80% have it, more than half but less than 80%, less than half but more than 20% or less than 20%)?	20% of businesses have access to any of these sources of financing None of the above
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Financial Capital – F04: Household income continuity strategy

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Redundancy	Community Level	Preparedness	Livelihoods		Yes

Definition: This source measures whether households in the community have a plan for maintaining or recovering their income/livelihoods in the event of a flood.

Notes: Whereas the focus of the Household Asset Recovery source was on protecting and recovering household assets (including homes and other types of property), this source focuses on protecting and recovering one's income or livelihood. It is important that individuals, especially those in relevant vulnerable groups (physically, socially or economically vulnerable) do not have to resort to negative coping strategies to get income (e.g., risky livelihood strategies or selling off productive assets). Note that a plan does not need to be formal (or written) but individuals in the community should be able to discuss how they will get income during and following a flood event. If the community meets any of the criteria set out in D, grade D. For A, B and C grades, choose the highest grade where the community meets all criteria. For example, if 85% of men, and 60% of women meet the criteria, grade B - the community has not met all the criteria for A.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
More than 80% of households (including female headed households) in the community have a plan for maintaining their income or livelihood in the event of a flood. Plans are realistic and do not include negative coping strategies such as selling productive assets.	More than 50% and up to 80% of households (including female headed households) in the community have a plan for maintaining their income or livelihood in the event of a flood. Plans are realistic and do not include negative coping strategies such as selling productive assets.	20-50%, of households in the community (including female headed households) have a plan for maintaining their income or livelihood in the event of a flood or the majority of plans are not realistic or include negative coping strategies such as selling productive assets.	Less than 20% of households in the community (including female headed households) have a plan for maintaining their income or livelihood in the event of a flood or those households with plans are not realistic or include negative coping strategies such as selling productive assets.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	If there is a flood, are you able to continue working and/or maintain your income?	Yes, my work or my income is not disrupted when there is a flood. Yes, I have alternate work or income source that I do during a flood Yes, I have alternate work or income source that I can do in another location. No, my work and income is disrupted until the flood ends No my work and income would be disrupted indefinitely I Don't know
Focus Group	If a flood occurs, do people in this community expect to receive some kind of external income support? Please tick all options that apply.	Yes they expect to use their insurance policy Yes they expect to get a loan Yes, they expect to receive aid from friends or family outside the community Yes, they expect aid from friends or family that live in the community Yes they expect aid from the government or an NGO No, they don't expect to receive any external income support if a flood occurs. None of the above
Focus Group	If there is a flood, are people in this community able to continue working and/or maintain their income (that is would you say more than 80% are able to maintain their income, more than half but less than 80%, less than half but more than 20% or less than 20%)?	Yes, most (more than 80%) are able to continue working or maintain an income Yes, many (more than half but up to 80%) are able to continue working or maintain an income. Less than half but at least 20% are able to continue working or maintain an income. Less than 20% are able to continue working or maintain an income I Don't know
Focus Group	Do people in this community discuss ways to continue working or maintaining their income if a flood should occur?	Yes No I don't know
Key Informant	If a flood occurs, do people in this community expect to receive some kind of external income support? Please tick all options that apply.	Yes they expect to use their insurance policy Yes they expect to get a loan Yes, they expect to receive aid from friends or family outside the community Yes, they expect aid from friends or family that live in the community Yes they expect aid from the government or an NGO No,



		they don't expect to receive any external income support if a flood occurs. None of the above
Key Informant	If there is a flood, are people in this community able to continue working and/or maintain their income (that is would you say more than 80% are able to maintain their income, more than half but less than 80%, less than half but more than 20% or less than 20%)?	Yes, most (more than 80%) are able to continue working or maintain an income Yes, many (more than half but up to 80%) are able to continue working or maintain an income. Less than half but at least 20% are able to continue working or maintain an income. Less than 20% are able to continue working or maintain an income I Don't know
Key Informant	Do people in this community discuss ways to continue working or maintaining their income if a flood should occur?	Yes No I don't know
2nd Source	Based on your research, how much income was disrupted during previous floods?	
2nd Source	Based on your research, do people in this community discuss ways to continue working or maintaining their income if a flood should occur (that is would you say more than 80% do, more than half but less than 80%, less than half but more than 20% or less than 20%)?	Yes most do discuss plans (more than 80%) including both female and male headed households. Yes many do (more than half but not more than 80%) discuss plans including female and male headed households. Less than half but at least 20% of households (both male and female headed households) discuss plans. Less than 20% of households (both male and female headed households) discuss plans
2nd Source	Based on your research have people in the community been able to maintain their income in past flood	Yes most have been able to maintain their income including those in vulnerable groups. Most have been able to maintain their income but vulnerable groups have not been able to. Some have been able to but most have not. No they have not been able to maintain their income.



events (remittances, government or NGO aid, loans).



Financial Capital – F05: Risk reduction investments

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Robustness	Enabling Environment	Corrective Risk Reduction	Assets	Yes	

Definition: This measures whether there is financing available for flood risk reduction projects (either publicly funded or privately funded) and whether there are any financial incentives to take flood mitigation into account when improvements are made. Improvements should also be adequately funded through dedicated budgets. Investments should be pre-emptive rather than part of flood recovery efforts.

Notes: This source is about the financing of flood risk reduction projects by households or community infrastructure. Note, the evidence of the funding can potentially be seen through the physical manifestation measured in the physical capital sources; therefore looking at answers to questions in the physical capital can also help when grading this source. It is important, though to establish (either through secondary sources or key informants) whether there is a dedicated budget and then use data from physical sources to help provide evidence of how well the community has access to this budget and whether the budget is adequate and whether incentives for mitigation are working. This source is probably best answered by FG, KI and secondary sources rather than household surveys..

A grade criteria	B grade criteria	C grade criteria	D grade criteria
There is a dedicated government budget that reaches the community and regulations or incentives for flood mitigation (i.e. for improvements to existing structures or building new flood protections) as a condition for receiving funding. If there is not a government funded budget, some other funding mechanism exists to incentivize flood mitigation investments. This can be private or public and the community is aware of the funding and uses the funding to make mitigation investments.	There is a government flood mitigation budget but the community has trouble accessing it and it does not adequately provide funding to make improvements to flood mitigation and there is not some other funding mechanism exists to incentivize flood mitigation investments.	There are regulations or incentives to make improvements to structures or build for flood mitigation but there is no dedicated government budget that reaches the community and there is not some other funding that exists to incentivize flood mitigation investments.	There is no dedicated government flood mitigation budget or there is one but the community does not have access to it. There are no flood mitigation improvements being made and there is no other funding available to incentivize flood mitigation investments.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Focus Group	Is there a dedicated budget for flood mitigation that provides incentives to improve or build structures that protects against flood risk?	There is a dedicated private or public budget for building or improving flood protective structures. There is a dedicated private or public budget for building or improving flood protective structures but it is difficult for the community to access it. There are some incentives for improving or building flood protective structures but not a dedicated budget either private or public. No there is no dedicated budget either private or public for improving or building flood protective structures. None of the above
Focus Group	Do you know of any incentive programs (public or private) that help people or the government make improvements that mitigate flood risk?	Yes and we have accessed it. Yes but we have not accessed it. Yes but we are not sure how to access it. No None of the above
Key Informant	Is there a dedicated budget for flood mitigation that provides incentives to improve or build structures that protects against flood risk?	There is a dedicated private or public budget for building or improving flood protective structures. There is a dedicated private or public budget for building or improving flood protective structures but it is difficult for the community to access it. There are some incentives for improving or building flood protective structures but not a dedicated budget either private or public. No there is no dedicated budget either private or public for improving or building flood protective structures. None of the above
Key Informant	Do you know of any incentive programs (public or private) that help people or the government make improvements that mitigate flood risk?	Yes and we have accessed it. Yes but we have not accessed it. Yes but we are not sure how to access it. No None of the above
2nd Source	Based on your research of flood mitigation incentive programs (both public and private), choose the option below that best applies.	There is a dedicated private or public budget for building or improving flood protective structures. There is a dedicated private or public budget for building or improving flood protective structures but it is difficult for the community to access it. There are some incentives for improving or building flood protective structures but not a dedicated budget either



private or public. | There is no dedicated budget either private or public for improving or building flood protective structures. | None of the above



Financial Capital – F06: Disaster response budget

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Rapidity	Enabling Environment	Response	Governance	Yes	

Definition: This measures whether there is a government disaster response budget or another type of financing mechanism that is activated in the event of a flood. The source looks at both the adequacy of the funding as well as its accessibility. Rather than going to individuals or households, this is funding targeted at the community level that is intended to enable a quicker and better recovery of infrastructure and services.

Notes: While all four methods can be used to answer this question, it is advised to use key informant and/or secondary source data on what might be available. This can be a fund from any level of government or international body but important that the funds are dispersed to communities in a timely way to aid in the response and recovery efforts.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
There is a government disaster response budget or other financing mechanism that is activated in the event of a flood. This funding is accessible to local communities and is received in a timely and equitable way to help achieve a faster and better recovery from the flood.	There is a government disaster response budget or other financing mechanism that is deployed in the event of a flood. However accessing the funding by the local community is difficult or funds are not received in a timely and equitable way to achieve a faster and better recovery from the flood.	There is no government disaster response budget or other financing mechanism that can be deployed in the event of a flood. In the past emergency funding has been deployed from the national government or international agencies but this can not be relied upon and accessing the funding by the local community is viewed as difficult or funds are not received in a timely and equitable way to achieve a faster and better recovery from the flood.	There is no government disaster response budget or other financing mechanism that can be deployed in the event of a flood. In the past the community has not received outside funding for community level recovery.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	If there is a flood, does the community receive money from a national or international disaster budget or fund?	There is a dedicated budget or funding in the event of a flood that helps our community. In the past our community has received funding but we don't know if there is a dedicated budget. There is a dedicated budget or funding in the event of a flood but it only benefits a few. There is a dedicated budget or funding in the event of a flood but it takes too long to reach our community to be of help. No there is no dedicated budget or funding in the event of a flood. Other I don't know
Focus Group	If there is a flood, does the community receive money from a national or international disaster budget or fund?	There is a dedicated budget or funding in the event of a flood that helps our community. In the past our community has received funding but we don't know if there is a dedicated budget. There is a dedicated budget or funding in the event of a flood but it only benefits a few. There is a dedicated budget or funding in the event of a flood but it takes too long to reach our community to be of help. No there is no dedicated budget or funding in the event of a flood. Other I don't know
Key Informant	If there is a flood, does the community receive money from a national or international disaster budget or fund?	There is a dedicated budget or funding in the event of a flood that helps our community. In the past our community has received funding but we don't know if there is a dedicated budget. There is a dedicated budget or funding in the event of a flood but it only benefits a few. There is a dedicated budget or funding in the event of a flood but it takes too long to reach our community to be of help. No there is no dedicated budget or funding in the event of a flood. Other I don't know
2nd Source	Based on your research of disaster response funding, if there is a flood, does the community receive money from a national or international disaster budget or fund in a timely and equitable way? Select the best option below.	There is a dedicated budget or funding in the event of a flood that helps the community. In the past our community has received funding but they don't know if there is a dedicated budget. There is a dedicated budget or funding in the event of a flood but it only benefits a few. There is a dedicated budget or funding in the event of a flood but it takes too long to reach the community to be of help. No there is no dedicated budget or funding in the event of a flood. Other

Financial Capital – F07: Conservation budget

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Robustness	Enabling Environment	Prospective Risk Reduction	Natural Environment	Yes	

Definition: This source measures whether there is a government budget for the conservation and sustainability of community resources.

Notes: This source is meant to capture whether there is a budget to support conservation and sustainability efforts.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
There is a well funded conservation budget at either the national or local/municipal level that provides money for preserving and sustaining community resources including ecosystem services.	There is a conservation budget at either the national or local/municipal level that provides money for preserving and sustaining community resources including ecosystem services but it is unclear whether it is sufficiently funded. However there are alternative sources of conservation funding in the community.	There is a conservation budget at either the national or local/municipal level that provides money for preserving and sustaining community resources including ecosystem services but it is not funded and there is no evidence of conservation funds being spent in the community.	There is no conservation budget at either the national or local/municipal level that provides money for preserving and sustaining natural resources and their associated ecosystem services.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Is there a national level conservation or sustainability budget that is adequately funded?	Yes there is an adequately funded budget and our community receives funding from it. Yes, there is a funded budget but our community has difficulty accessing the budget. No it is known that there is a budget but it is rarely if ever funded No there is no national conservation or sustainability budget Other I don't know None of the above
Focus Group	Is there a national level conservation or sustainability budget that is adequately funded?	Yes there is an adequately funded budget and our community receives funding from it. Yes, there is a funded budget but our community has difficulty accessing the budget. No it is known that there is a budget but it is rarely if ever funded No there is no national conservation or sustainability budget Other I don't know None of the above
Key Informant	Is there a national level conservation or sustainability budget that is adequately funded?	Yes there is an adequately funded budget and our community receives funding from it. Yes, there is a funded budget but our community has difficulty accessing the budget. No it is known that there is a budget but it is rarely if ever funded No there is no national conservation or sustainability budget Other I don't know None of the above
2nd Source	Based on your research, is there a national level conservation or sustainability budget that is adequately funded?	Yes there is an adequately funded budget and our community receives funding from it. Yes, there is a funded budget but our community has difficulty accessing the budget. No it is known that there is a budget but it is rarely if ever funded No there is no national conservation or sustainability budget Other I don't know None of the above



Human Capital – H01: Evacuation and safety knowledge

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Robustness	Community Level	Preparedness	Life and Health		Yes

Definition: Assess the community's knowledge about flood safety and evacuation including when and how to evacuate, and where to go, as appropriate to the community context. If people in the community do not know to how to stay safe and evacuate safely, then their lives may be at risk.

Notes: Evacuation procedures include knowing when to evacuate, how to evacuate and where to evacuate to. Key safety concerns include how to avoid drowning or injury in the community's flood conditions. Consider that this source should be inclusive of all relevant vulnerable (physically, socially or economically vulnerable) groups.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
<p>More than 80% of community members know when they should evacuate, know an appropriate safe place to which they should evacuate, and have a plan to evacuate themselves and their families to this place safely.</p> <p>AND</p> <p>The community has an evacuation plan that meets the needs of all groups in the community.</p>	<p>More than 50 up to 80% of community members know when they should evacuate, know an appropriate safe place to which they should evacuate, and have a plan to evacuate themselves and their families to this place safely.</p> <p>AND</p> <p>The community has an evacuation plan that meets the needs of all groups in the community.</p>	<p>20-50% of community members know when they should evacuate, know an appropriate safe place to which they should evacuate, and have a plan to evacuate themselves and their families to this place safely.</p> <p>AND</p> <p>The community has an evacuation plan that meets the needs of all groups in the community.</p>	<p>Less than 20% of community members know when they should evacuate, neither do they know an appropriate safe place to which they should evacuate, nor do they have a plan to evacuate themselves and their families to this place safely.</p> <p>OR</p> <p>The community does not have a safety and evacuation plan in place that meets the needs of all groups in the community.</p>



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Does this community have a flood evacuation plan that meets your needs?	Yes No I don't know
Household	If there is a flood in this community, do you know when to evacuate?	Yes No I don't know
Household	If there is a flood in this community and you need to evacuate, do you know where to go?	Yes No I don't know
Household	Do you have a household flood evacuation plan that you have talked about with everyone in the household?	Yes No I don't know
Focus Group	Does the community have a flood safety and evacuation plan that meets the needs of all groups in the community?	Yes No Don't know
Focus Group	What percentage of community members know when to evacuate?	
Focus Group	What percentage of community members know where to evacuate to?	
Focus Group	What percentage of households have a flood evacuation plan that they have talked about with all household members?	
Key Informant	Does the community have a flood safety and evacuation plan that meets the needs of all groups in the community?	Yes No Don't know
Key Informant	What percentage of community members know when to evacuate?	
Key Informant	What percentage of community members know where to evacuate to?	

Key Informant	What percentage of households have a flood evacuation plan that they have talked about with all household members?	
2nd Source	Does the community have a flood safety and evacuation plan that meets the needs of all groups in the community?	Yes No Don't know
2nd Source	What percentage of community members know when to evacuate?	
2nd Source	What percentage of community members know where to evacuate to?	
2nd Source	What percentage of households have a flood evacuation plan that they have talked about with all household members?	



Human Capital – H02: First aid knowledge

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Robustness	Community Level	Preparedness	Life and Health		Yes

Definition: First aid knowledge is essential for emergency response and contributes towards reducing injuries and fatalities. It also contributes towards the community's sense of self-reliance. Assess the percentage of people in the community who are trained in first aid, and the percentage of men and women who know what to do in an emergency.

Notes: This source assesses the first aid knowledge in the community. Ideally, 10% of the community should be trained to perform first aid. Furthermore, all adults (women and men) should know what to do if there was an emergency. The appropriate response to an emergency varies, depending on the context of the community - in some cases it might be a question of knowing when and how to call the emergency services, or how to identify an emergency in the first place, or performing abdominal compressions (Heimlich maneuver) if someone is choking.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
<p>More than 10% of adults in the community have received first aid training. AND More than 80% of women in the community know how to respond if someone was seriously injured. AND More than 80% of men in the community know how to respond if someone was seriously injured.</p>	<p>More than 8% of adults in the community have received first aid training. AND More than 50% of women in the community know how to respond if someone was seriously injured. AND More than 50% of men in the community know how to respond if someone was seriously injured.</p>	<p>5% or more of adults in the community have received first aid training. AND 20% or more of women in the community know how to respond if someone was seriously injured. AND 20% or more of men in the community know how to respond if someone was seriously injured.</p>	<p>Less than 5% of adults in the community have received first aid training. OR Less than 20% of women in the community know how to respond if someone was seriously injured. OR Less than 20% of men in the community know how to respond if someone was seriously injured.</p>

Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Has anyone given you information about what to do if someone is seriously injured?	Yes No I don't know
Household	If there is a flood in this community, would you know how to respond if someone is seriously injured?	Yes No I don't know
Household	Has anyone in this household attended first aid training in the last 10 years?	Yes No I don't know
Focus Group	What percentage of adults in the community have attended first aid training in the last 10 years?	
Focus Group	What percentage of women in the community would know how to respond if someone was seriously injured?	
Focus Group	What percentage of men in the community would know how to respond if someone was seriously injured?	
Key Informant	What percentage of adults in the community have attended first aid training in the last 10 years?	
Key Informant	What percentage of women in the community would know how to respond if someone was seriously injured?	
Key Informant	What percentage of men in the community would know how to respond if someone was seriously injured?	
2nd Source	What percentage of adults in the community have attended first aid training in the last 10 years?	



2nd Source	What percentage of women in the community would know how to respond if someone was seriously injured?	
2nd Source	What percentage of men in the community would know how to respond if someone was seriously injured?	



Human Capital – H03: Education commitment during floods

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Resourcefulness	Community Level	Prospective Risk Reduction	Livelihoods		Yes

Definition: Education is critical for long-term development and flood resilience. Assess the community's commitment to; ensuring children in their care (girls and boys) continue to receive an education when community life is disrupted by a flood, if classes are being provided and are safe to access.

Notes: Families may be inclined not to send their school age girls and boys to school (or an alternative location where school classes are being held) following flooding, even when the location is safe to access and classes are running. Instead they may keep them at home to help with family responsibilities such as looking after younger siblings, or post-flood clean-up. They may also send children to work in order to help cope with the financial burden of the flood. Taking children out of school is a negative coping strategy. Consider how educational attendance during flood times may be different for girls and boys. The first question is designed to get the respondent thinking about why it may be difficult to send children to school (or an alternative location where school classes are being held) during flood times, the second and third questions provide the data for grading the source. If the community meets any of the criteria set out in D, grade D. For A, B and C grades, choose the highest grade where the community meets all criteria. For example, if 8% of boys, and 2% of girls would miss education for at least a week due to flooding, grade B - the community has not met all the criteria for A.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
<p>If classes were running and were physically safe to access, no more than 2% of girls would miss education for at least a week following flooding.</p> <p>AND</p> <p>If classes were running and were physically safe to access, no more than 2% of boys would miss education for at least a week following flooding.</p>	<p>If classes were running and were physically safe to access, no more than 10% of girls would miss education for at least a week following flooding.</p> <p>AND</p> <p>If classes were running and were physically safe to access, no more than 10% of boys would miss education for at least a week following flooding.</p>	<p>If classes were running and were physically safe to access, no more than 25% of girls would miss education for at least a week following flooding.</p> <p>AND</p> <p>If classes were running and were physically safe to access, no more than 25% of boys would miss education for at least a week following flooding.</p>	<p>If classes were running and were physically safe to access, more than 25% of girls would miss education for at least a week following flooding.</p> <p>OR</p> <p>If classes were running and were physically safe to access, more than 25% of boys would miss education for at least a week following flooding.</p>



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Sometimes families cannot send their children and adolescents to school or classes because of flooding, even when the school or classes are safe to access and classes are running. What are some reasons why the school students in this household might not attend school or classes due to flooding? Please tick all options that apply.	No reasons why children in this household might not attend school or classes due to flooding Children need to help look after younger siblings or other family members Children need to earn money because the flood has cost the family a lot of money Families cannot afford school fees or equipment such as uniform, bag or pens because the flood has cost the family a lot of money Other reasons Children need to help with clean-up I don't know N/A no children live in this household
Household	Would any of the girl school students who live in this household need to miss school or classes for a week or more due to flooding, even if classes were safe to access and running?	Yes No I don't know N/A no girl school students live in this household
Household	Would any of the boy school students who live in this household need to miss school or classes for a week or more due to flooding, even if classes were safe to access and running?	Yes No I don't know N/A no boy school students live in this household
Focus Group	If classes were safe to access and were running, what are some reasons families might not send their children or adolescents to school or classes because of flooding? Please tick all options that apply.	Children need to help with clean-up Children need to help look after younger siblings or other family members Children need to earn money because the flood has cost the family a lot of money Families cannot afford school fees or equipment such as uniform, bag or pens because the flood has cost the family a lot of money Other No reasons Don't know

Focus Group	What percentage of girl school students in the community would miss school or classes for at least a week due to flooding?	
Focus Group	What percentage of boy school students in the community would miss school or classes for at least a week due to flooding?	
Key Informant	If classes were safe to access and were running, what are some reasons families might not send their children or adolescents to school or classes because of flooding? Please tick all options that apply.	Children need to help with clean-up Children need to help look after younger siblings or other family members Children need to earn money because the flood has cost the family a lot of money Families cannot afford school fees or equipment such as uniform, bag or pens because the flood has cost the family a lot of money Other No reasons Don't know
Key Informant	What percentage of girl school students in the community would miss school or classes for at least a week due to flooding?	
Key Informant	What percentage of boy school students in the community would miss school or classes for at least a week due to flooding?	
2nd Source	If classes were safe to access and were running, what are some reasons families might not send their children or adolescents to school or classes because of flooding? Please tick all options that apply.	Children need to help with clean-up Children need to help look after younger siblings or other family members Children need to earn money because the flood has cost the family a lot of money Families cannot afford school fees or equipment such as uniform, bag or pens because the flood has cost the family a lot of money Other No reasons I don't know



2nd Source	What percentage of girl school students in the community would miss school or classes for at least a week due to flooding?	
2nd Source	What percentage of boy school students in the community would miss school or classes for at least a week due to flooding?	



Human Capital – H04: Flood exposure awareness

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Resourcefulness	Community Level	Corrective Risk Reduction	Assets		Yes

Definition: Assess the community's knowledge about flood exposure, specifically where in the community it is likely to be flooded. To determine which areas are flood prone, please consult any flood hazard maps and also consult with village leadership and other relevant authorities. If people in the community do not know which areas of the community are likely to flood, then their lives and assets may be at risk.

Notes: Some areas in the community are more at risk of flooding than others. This source assesses the community's knowledge about which areas in the community are likely to flood, and which are safer. Consider that this source should be inclusive of all relevant vulnerable (physically, socially or economically vulnerable) groups.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
At least 80% of the community know which areas in the community are likely to flood.	More than 50 up to 80% of the community know which areas in the community are likely to flood.	20-50% of the community know which areas in the community are likely to flood.	Less than 20% of the community know which areas in the community are likely to flood.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Focus Group	What percentage of people in the community know which assets (houses, other buildings) are at high risk of being flooded because of their location?	
Focus Group	What percentage of people in the community know which areas are most likely to flood?	
Key Informant	What percentage of people in the community know which assets (houses, other buildings) are at high risk of being flooded because of their location?	
Key Informant	What percentage of people in the community know which areas are most likely to flood?	
2nd Source	What percentage of people in the community know which assets (houses, other buildings) are at high risk of being flooded because of their location?	
2nd Source	What percentage of people in the community know which areas are most likely to flood?	

Human Capital – H05: Asset protection knowledge

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Robustness	Community Level	Corrective Risk Reduction	Assets		

Definition: Assess the community's knowledge of preemptive actions they could realistically implement which might reduce the physical vulnerability of homes and contents, business premises and productive assets to damage from flood waters.

Notes: Preemptive actions happen in normal times, before the flood is on its way. Examples include raising houses on stilts, flood retaining walls around houses or assets, elevated storage areas, putting valuables in safe or water-proof areas.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
More than 80% of households in the community have taken at least one pre-emptive action to protect their assets from floods.	More than 80% of households in the community can name at least two pre-emptive actions they could take or have taken to protect their assets from floods.	50-80% of households in the community can name at least two pre-emptive action they could take to protect their assets from floods.	Less than 50% of households in the community can name at least two pre-emptive actions they could take to protect their assets from floods.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	What actions do people in the community take to protect their homes, other types of property, vehicles, valuables or work equipment from being damaged in the event of a flood? These actions are things people could do now in advance of the flood, not right before the flood occurs.	Respondent named 2 or more realistic actions Respondent named 1 realistic action Respondent named 0 realistic actions
Household	Has anyone in the household taken any actions already to protect their home or property from being damaged by a flood?	Yes No I don't know
2nd Source	What percentage of households in the community can name at least two actions they could take to protect their assets (i.e. buildings, other property, vehicles, valuables or work equipment) from flood damage? These actions would need to be taken in 'normal' times, not in the immediate lead-up to a flood.	
2nd Source	What percentage of households in the community have already taken at least one action to protect their assets (i.e. buildings, vehicles or valuables) from flood damage? These actions need to have been taken in 'normal' times, not in the immediate lead-up to a flood.	

Human Capital – H06: Future flood risk awareness

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Robustness	Community Level	Prospective Risk Reduction	Assets		

Definition: Many factors are likely to increase flood risk in the future. Assess the community's awareness that flood risk may change in the future.

Notes: Climate change, ecosystem degradation such as deforestation in watershed and loss of natural habitats around rivers and coasts is increasing flood risk. Increasing exposure (build up of assets) in high risk areas is also increasing flood risk. This source assesses whether the community is aware that flood risk may change in the future. It does not assess what they attribute this increase to. In the household survey and focus group discussions, the first question is designed to get respondents thinking about flood risk in the future - it does not influence grading.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
More than 80% or more of the community believes that without mitigation action, flood risk may change in the future.	More than 50 up to 80% of the community believe that without mitigation action, flood risk may change in the future.	20-50% of the community believe that without mitigation action, flood risk may change in the future.	Less than 20% of the community believes that without mitigation action, flood risk may change in the future.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	What actions could be taken to reduce the impacts of floods in this community? Please tick all options that apply.	Building physical protections such as dykes or embankments Planting trees and vegetation Changes to houses and buildings Moving assets out of the flood plain Other actions Did not identify any actions
Household	If no actions are taken, do you think floods in the future will be better, the same or worse than they are now?	Floods in the future will be better or worse (flood risk will change) Floods in the future will be the same I don't know
Focus Group	What actions could be taken to reduce the impacts of floods in the community? Please tick all options that apply.	Building physical protections such as dykes or embankments Planting trees and vegetation Changes to houses and buildings Other actions No actions identified
Focus Group	What percentage of the community thinks that if no action is taken, floods in the future will be better or worse (will change) in the future?	
Focus Group	What percentage of the community thinks that if no action is taken, floods in the future will be the same they are now?	
2nd Source	What percentage of community members believe that without action, floods will be worse or better (will change) in the future?	

Human Capital – H07: Water and sanitation awareness

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Robustness	Community Level	Response	Life and Health		Yes

Definition: In the aftermath of a flood, human health is often at risk from lack of clean drinking water, water and insect-borne disease. Assess whether people are aware of the actions they need to take to protect their health during flood.

Notes: This source assesses the community's current level of awareness surrounding proper hygiene habits in emergencies. Proper hygiene habits in emergencies include purifying water for drinking and cooking by boiling or purification tablets, storing water correctly, washing with soap, avoiding insect bites, and keeping children away from stagnant flood waters. Inadequate clean drinking water and/or sanitation practices during and following floods can lead to increased instances of preventable diseases, such as diarrhea, cholera, measles, scurvy, and other hygiene-related disease outbreaks in emergencies or, in extreme cases, even death. Consider that this source should be inclusive of all relevant vulnerable (physically, socially or economically vulnerable) groups.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
<p>More than 80% of the men in the community know how to access clean drinking water and undertake proper hygiene during flood.</p> <p>AND</p> <p>More than 80% of the women in the community know how to access clean drinking water and undertake proper hygiene during flood.</p>	<p>More than 50% of the men in the community know how to access clean drinking water and undertake proper hygiene during flood.</p> <p>AND</p> <p>More than 50% of the women in the community know how to access clean drinking water and undertake proper hygiene during flood.</p>	<p>20% or more of the men in the community know how to access clean drinking water and undertake proper hygiene during flood.</p> <p>AND</p> <p>20% or more of the women in the community know how to access clean drinking water and undertake proper hygiene during flood.</p>	<p>Less than 20% of the men in the community know how to access clean drinking water and undertake proper hygiene during flood.</p> <p>OR</p> <p>Less than 20% of the women in the community know how to access clean drinking water and undertake proper hygiene during flood.</p>



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Have you received information about clean drinking water and how to protect yourself and your family from getting sick if there was a flood?	Yes No I don't know
Household	If there was a flood in the community, would you would know how to make sure you have clean drinking water and keep yourself and your family safe from getting sick?	Yes No I don't know
Focus Group	What percentage of men in the community know how to make sure they have clean drinking water and keep themselves and their family safe from getting sick during and after a flood?	
Focus Group	What percentage of women in the community know how to make sure they have clean drinking water and keep themselves and their family safe from getting sick during and after a flood?	
Key Informant	What percentage of men in the community know how to make sure they have clean drinking water and keep themselves and their family safe from getting sick during and after a flood?	
Key Informant	What percentage of women in the community know how to make sure they have clean drinking water and keep themselves and their family safe from getting sick during and after a flood?	
2nd Source	What percentage of men in the community know how to make sure they have clean drinking water and keep themselves and their family safe from getting sick during and after a flood?	
2nd Source	What percentage of women in the community know how to make sure they have clean drinking water and keep themselves and their family safe from getting sick during and after a flood?	

Human Capital – H08: Environmental management awareness

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Resourcefulness	Community Level	Prospective Risk Reduction	Natural Environment		

Definition: The presence of natural environments can reduce flood risk. Assess the community's awareness of the relationship between maintaining or enhancing natural environments and the incidence and level of flooding in the community.

Notes: Flood risk can increase when people alter the natural landscape. For example, in a watershed, deforestation upstream can increase flood risk down stream. Removing trees and vegetation from around rivers can increase flooding because the river cannot naturally widen and absorb heavy flows. Straightening a river can also increase the speed of flood waters. Removal of coastal mangroves can increase the risk of coastal flooding. At the same time, restoring damaged natural environments can help reduce flooding. This source assesses whether the community is aware of the link between the presence and health of natural environments and flooding.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
More than 80% of the community can name at least one way that the presence and health of the natural environments reduces flood risk.	More than 50 up to 80% of the community can name at least one way that the presence and health of the natural environments reduces flood risk.	20-50% of the community can name at least one way that the presence and health of the natural environments reduces flood risk.	Less than 20% of the community can name at least one way that the presence and health of the natural environments reduces flood risk.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	What could be done in regards to the natural environment or ecosystems that could help protect this community from floods?	Respondent named at least one action in regards to the natural environment that could help protect the community from floods Respondent did not name any actions in regards to the natural environment that could help protect the community from floods I don't know
2nd Source	What percentage of the community can name actions that could be taken in regards to the natural environment that could help protect this community from floods?	



Human Capital – H09: Governance awareness

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Resourcefulness	Community Level	Corrective Risk Reduction	Social Norms		Yes

Definition: Assess the accuracy of community's understanding about their own rights and responsibilities, and those of community organizations and government authorities at various levels, in terms of preventing, responding and rebuilding from floods.

Notes: Accurate understanding of governance structure and responsibilities (including of the individual/household) is a critical first step for taking action and engaging others to fulfill their roles. This source assesses the community's awareness of who is responsible for preventing and responding to floods in the community. Consider that this source should be inclusive of all relevant vulnerable (physically, socially or economically vulnerable) groups.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
<p>More than 80% of the community know who is responsible for preventing and responding to floods in the community.</p> <p>AND</p> <p>More than 80% of the community know their own responsibilities for protecting themselves and their assets from to floods in the community.</p>	<p>More than 50% of the community know who is responsible for preventing and responding to floods in the community.</p> <p>AND</p> <p>More than 50% of the community know their own responsibilities for protecting themselves and their assets from to floods in the community.</p>	<p>20% or more of the community know who is responsible for preventing and responding to floods in the community.</p> <p>AND</p> <p>20% or more of the community know their own responsibilities for protecting themselves and their assets from to floods in the community.</p>	<p>Less than 20% of the community know who is responsible for preventing and responding to floods in the community.</p> <p>OR</p> <p>Less than 20% of the community know their own responsibilities for protecting themselves and their assets from to floods in the community.</p>



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Has anyone ever given you any information about who is responsible for preventing and responding to floods in this community?	Yes No I don't know
Household	Who is responsible for preventing and responding to floods in the community?	Respondent gave a generally correct answer Respondent gave a generally incorrect answer I don't know
Household	What are your responsibilities for protecting yourself, your family and your assets from floods in the community?	Respondent gave a generally correct answer Respondent gave an incorrect answer I don't know
Focus Group	What percentage of people in the community know who is responsible for preventing and responding to floods in the community?	
Focus Group	What percentage of people in the community know their own responsibilities for protecting themselves and their assets from the impact of floods in the community?	
Key Informant	What percentage of people in the community know who is responsible for preventing and responding to floods in the community?	
Key Informant	What percentage of people in the community know their own responsibilities for protecting themselves and their assets from the impacts of floods in the community?	
2nd Source	What percentage of people in the community know who is responsible for preventing and responding to floods in the community?	

2nd Source

What percentage of people in the community know their own responsibilities for protecting themselves and their assets from the impacts of floods in the community?



Natural Capital – N01: Natural capital condition

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Redundancy	Enabling Environment	Prospective Risk Reduction	Natural Environment	Yes	

Definition: This source is about the condition (degree of degradation and/or conversion) of the natural capital (in the form of natural areas) that influence the intensity of the hazard event (e.g. the basin upstream of the community). These natural areas (the upper river basin, the coral reef, the mangrove, green city spaces) will provide services that make the community more flood resilient. Their degradation or loss will exacerbate flood risk in the community. It is important to understand the ‘landscape’ that the community is located in, because nature does not follow our social and administrative systems.

Notes: This data should be collected from secondary sources/data, either a national inventory of river basin health, using global or national river score cards or alternatively by speaking with a person knowledgeable about the condition of the landscape relevant to the flood hazard of the community. Ideally, ask a government official in a department responsible for watershed protection, forestry or water resources, but triangulate this information with an NGO that is engaged in river basin management, such as a local conservation CBO/NGO or local academic who is active in conservation. It is important to only look at the condition in the area relevant to the flood hazard of the community and not upstream in the catchment. For example, if the community is located on a tributary, then the assessment must look at the condition of the basin on this tributary alone and not the upper river basin in general.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
The condition of the landscape relevant to the flood hazard of the community (e.g. the upper river basin above the community) is judged to be intact and as natural as possible. The conditions are as near perfect as could be expected (e.g. the state of a coral reef, the hydrological conditions of the river, watershed forests are as natural as would be expected).	The condition of the landscape relevant to the flood hazard of the community has been altered, but the conditions retain the fundamental characteristics to maintain flood resilience services. E.g although the natural watershed forest has been converted to plantation forestry, these forests are selectively logged (not clear cut) and are managed so as to retain most of their hydrological functions. The landscape remains intact and the impact on the hydrological conditions are minimal	The condition of the landscape relevant to the flood hazard of the community has been significantly altered, large areas have been converted from their original condition to different uses, such as, large scale deforestation for agriculture, and as a result the hydrological profile of the landscape has significantly changed.	The condition of the landscape relevant to the flood hazard of the community has been changed, the natural flood resilience services have been significantly altered, the river has been canalised, wetlands drained and natural vegetation on the river banks has been replaced with engineered or man made banks. As a result, the hydrological profile of the landscape is totally different.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
2nd Source	In a country with a national habitat monitoring index e.g a river score card system, what is the condition of the natural landscape relevant to the flood hazard of the community? (if no index is readily available select not applicable and move to next question)?	Pristine and virtually unmodified, land management in the natural landscape relevant to the flood hazard is carried out in harmony with the natural landscape. Less than half the natural landscape relevant to the flood hazard has been converted More than half the natural landscape relevant to the flood hazard has been converted Heavily degraded, with the majority of the natural landscape relevant to the flood hazard has been converted and no longer provides flood resilience services Not applicable
2nd Source	Based on your knowledge what is the condition of the natural landscape relevant to the flood hazard of the community?	Pristine and virtually unmodified, land management in the landscape relevant to the flood hazard is carried out in harmony with the natural landscape Less than half the landscape relevant to the community flood hazard has been converted More than half the landscape relevant to the community flood hazard has been converted Pristine and virtually unmodified, predominantly land management in the river basin is carried out in harmony with the natural landscape.



Natural Capital – N02: Priority natural units

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Robustness	Community Level	Prospective Risk Reduction	Natural Environment		

Definition: This source is about the flood resilience benefits of the priority natural units present in the community area. To grade this source, the following steps need to be carried out;

- > A mapping exercise of the community,
- > The identification of the natural units (ancestral forest, grazing area, fishing pond, waste ground next to the river, etc.) and;
- > A prioritisation exercise undertaken with the community to identify the units which they view as the most important for their flood resilience benefits.

Notes: The community should be free to identify the priority natural units but may need some help identifying these, which could involve bringing a Natural Capital specialist (i.e. a Conservation worker, ecosystems specialist, forester or agriculturalist) to explain the different types of ecosystem functions and how they relate to a typical flood event as experienced in the community.

It is important that this source focuses on units which are unmanaged or largely unmanaged. For example, community forestry would be in this category, whereas a managed woodlot would be in NN03. The difference is based on the intensity of the management regime and how this influences the form and the function of the unit. In a community forest, the natural processes are largely responsible for the flood resilience services. To learn more about the community mapping exercise, refer to the training material.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
The priority natural units are well protected and managed for their flood resilience services, the area is naturally covered and the condition of the natural units are considered to be better or identical to ten years ago.	The priority natural units are somewhat protected and managed and their flood resilience services are recognised and are expected to last for more than 5 years, although the condition is considered to be under threat of conversion or degradation and is half of what it was ten years ago.	The priority natural units are under threat of destruction or conversion to other uses and their flood resilience services are greatly reduced in the absence of management interventions the community feel they will have disappeared in more than 3 and less than 5 years time	The threat of destruction or conversion to other uses of the identified natural units is ongoing and the community feel they will have been totally converted or eroded and that they will no long produce flood resilience services in less than 3 years time.

Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Is the priority natural area that has been identified protected by the community?	Yes No I don't know
Household	What is the condition of the natural area that has been identified (Priority natural unit) and selected by the community?	The Priority natural unit is being protected and any extractive activity (i.e logging or harvesting) is balanced by suitable remedial measures The Priority natural unit is being utilised and there are recognised threats but the area should remain in a relative health for at least 10 years The Priority natural unit is being heavily eroded/utilised but is expected to remain for at least 3 to 5 years The Priority natural unit is under threat and is expected to be totally degraded in less than 3 years
Focus Group	Is the priority natural unit that has been identified protected by the community?	Yes No I don't know
Focus Group	What is the condition of the natural area that has been identified (Priority natural unit) and selected by the community?	The Priority natural unit is protected and any extractive activity (i.e logging or harvesting) is balanced with suitable remedial measures The Priority natural unit is being utilised and there are recognised threats but the area should remain in a relative health for more than 10 years The Priority natural unit is being heavily eroded/utilised but is expected to remain for at least 3 to 5 years The Priority natural unit is under threat and is expected to be totally degraded in less than 3 years



Natural Capital – N03: Priority managed units

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Robustness	Community Level	Corrective Risk Reduction	Natural Environment		

Definition: This source is about the flood resilience benefits of the priority managed units (e.g. Terraced fields, woodlots, aquaculture ponds etc.) present in the community area. To grade this source, the following steps need to be carried out;

- > A mapping exercise of the community,
- > The identification of the managed units (terraced fields, community woodlot, park next to river, managed grazing area, man made reservoir, recreational area, school grounds, etc.) and;
- > A prioritisation exercise undertaken with the community to identify the units which they view as the most important for the flood resilience benefits.

For advice on how to do this please refer to the Natural Capital of the training manual

Notes: The community should be free to identify the managed units and prioritising the most important from a flood resilience perspective but may need some help identifying these, such as bringing someone who is knowledgeable on the role of natural and nature based approaches in flood management (see World Wildlife Fund's 'Flood green guide' <https://floodresilience.net/resources/item/natural-nature-based-flood-management-a-green-1>) to explain how different land use deliver different Ecosystem Services and how these relate to a typical flood event experienced in the community. It is important that this source focuses on units which are managed. For example, a 'managed' woodlot would be in this category, whereas a community forest would be in N02. The difference is based on the intensity of the management regime and how the management influences the form and the function of the unit. In a woodlot, it is the management regime that shape the forest type and hence the flood services.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
The priority managed units are recognised for their flood resilience services and the condition of these managed areas is considered to be identical to or better than ten years ago.	The priority managed units are managed and their flood resilience services are recognised and are expected to last for more than 5 years, although the condition is considered to be under threat of conversion or degradation and is half of what it was ten years ago.	Conversion of the managed unit is taking place and the ability of these units to provide flood resilience services has been greatly reduced and in the absence of management intervention the community feel they will have disappeared in more than 3 and less than 5 years time.	The conversion of the managed unit is ongoing and the community feel they will have been totally converted or eroded that they will no long produce flood resilience services in less than 3 years time.

Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Is the priority managed area that has been identified, managed by the community?	Yes No I don't know
Household	What is the condition of the Priority managed area (Productive Unit) that has been selected by the community?	The Priority Productive Unit is being well managed and is expected to be in the same condition for more than 10 years The Priority Productive Unit is being utilised and converted but is expected to function for more than 5 and up to 10 years The Priority Productive Unit is being heavily utilised and converted but is expected to remain for more than 3 and up to 5 years The Priority Productive Unit is being threatened and rates of conversion mean it will disappear in less than 3 years
Focus Group	Is the priority managed area that has been identified, managed by the community?	Yes No I don't know
Focus Group	What is the condition of the Priority managed area (Productive Unit) that has been selected by the community?	The Priority Productive Unit is being well managed and is expected to be in the same condition for more than 10 years The Priority Productive Unit is being heavily utilised and converted but is expected to function for at least 5 to 10 years The Priority Productive Unit is being heavily utilised and converted but is expected to remain for at least 3 to 5 years The Priority Productive Unit is being threatened and rates of conversion mean it will disappear in less than 3 years



Natural Capital – N04: Natural resource conservation

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Resourcefulness	Enabling Environment	Prospective Risk Reduction	Governance	Yes	

Definition: This source assesses whether the national or local government promotes conservation and whether conservation management is adopted and practised at the area in which the community is located? This source should be graded based upon the robustness of national conservation laws, policies and practice and whether they influence decisions, plans and investment choices and do they recognise the contribution of natural capital to flood resilience.

Notes: This data should be collected from secondary data sources;

> Is there a national law or regulation that promotes conservation?

> Does this national legislation recognise the role that natural capital plays in flood resilience?

> Is the conservation legislation having a positive impact in the at the area in which the community is located?

Ideally ask a government official in a department responsible for Wildlife Protection, National Parks, Conservation and/or Environment and triangulate this information with an NGO or Academic conservationist who is knowledgeable about national conservation policy, practice and status in the river basin being studied

A grade criteria	B grade criteria	C grade criteria	D grade criteria
The national or local government has a law or regulation for the conservation of natural environments, AND this law covers both structural (i.e. Protected areas, Ranger stations) and non structural measures (i.e. Awareness campaigns) AND this law is implemented for all natural habitats regardless of size AND is implemented for terrestrial and aquatic habitats AND it is adequately resourced covering maintenance budgets and staff levels	The national or local government has a law or regulation for the conservation of natural environments, but this law is only partially implemented and fails in one or more ways, doesn't cover both structural (i.e. Protected areas, Ranger stations) and non structural measures (i.e. Awareness campaigns) OR isn't implemented for all natural habitats based on size OR ignores either terrestrial or aquatic habitats OR isn't adequately resourced covering maintenance budgets and staff level levels	Laws or regulations promoting conservation of natural environments are available but they are limited in extent and adequacy	There are no laws or regulations relating to conservation of natural environments and conservation practice is absent.

Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
2nd Source	Is there a national or local government law, policy or regulation that promotes conservation of natural environments?	Yes No I don't know
2nd Source	Does this national or local natural environmental conservation law, policy or regulation recognise the role that natural capital plays in flood resilience?	Yes No I don't know
2nd Source	Based on your knowledge of the flood hazard to which this community is exposed to, what is the condition of the natural environment?	The landscape is virtually unmodified and all conservation management has been in harmony with the landscape Less than half of the basin has been converted and largely provides hydrological flows which are slightly modified from those expected under natural state Half of the area in the basin has been converted and flows are greatly modified from natural flow conditions Zero protection the majority of the basin has been converted or threatened with conversion in the next few years and the flows will be totally modified



Natural Capital – N05: Natural habitat restoration

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Resourcefulness	Enabling Environment	Corrective Risk Reduction	Governance	Yes	

Definition: This source assesses whether the national government has an active policy and enforcement requiring the restoration and rehabilitation of sites following development? Is there a national level commitment to habitat restoration and is this practised in the area in which the community is located, for example, when a road or bridge is constructed does the contractor replant trees, restore streams and wetlands and restore the bare ground by replanting or reseeding natural vegetation?

Notes:

This data should be collected from secondary source data and graded based upon;

- > Whether there is a national regulation that promotes restoration, supported with guidelines and principles for restoration?
- > Whether this national legislation recognise the role that Natural capital plays in flood resilience?
- > The robustness of national law, which should enforce Environmental Impact Assessments (EIA) and post development restoration and/or rehabilitation?
- > Whether the legislation having positive impact in the river basin near to the community, are restoration practices present in the area around the community.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
Habitat restoration laws and policies are implemented and widely communicated. Related bodies/structures coordinate restorative activities and habitat restoration is monitored long-term. Habitats are restored to similar or better than before the development or extractive activity took place.	Habitat restoration laws and policies are partially implemented with habitats restored to conditions almost equal to before the development/extractive activity took place.	Habitat restoration is limited/restricted to only major government projects or programmes and enforcement is weak.	None or very little habitat restoration takes place after development/extraction activities.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
2nd Source	Is there a national or local law, policy or regulation that requires natural environmental rehabilitation/restoration?	Yes No I don't know
2nd Source	Does this national or local natural environmental restoration/rehabilitation law, policy or regulation recognise the role that natural capital plays in flood resilience?	Yes No I don't know
2nd Source	Based on your knowledge of the landscape relevant to the flood hazard of the community what is the state of the landscape restoration/rehabilitation practised?	The landscape is virtually unmodified and restoration management has been in harmony with the landscape More than half of the areas converted are restored, restoration is well planned and the restored landscape is only slightly modified from what would be expected Less than half of the areas converted are restored or restoration is poorly designed and ineffective Heavily degraded, with the majority of land converted not restored



Physical Capital – P01: Flood healthcare access

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Robustness	Community Level	Response	Life and Health		Yes

Definition: Assess the ability of healthcare facilities to function during and after floods. The assessment should take into account the location of the facilities, the way they are constructed and how their flood risk is managed. There should also be strategies in place to guarantee healthcare service provision to people during and after floods. This includes access to medical supplies, not only to the healthcare facilities themselves. Household level data, where available, should provide information of whether access is inclusive of all relevant vulnerable (physically, socially or economically) groups in the community. If this data is not available, assessors should use their own judgement and grade based on input from other input methods.

Notes: In order to more accurately grade this source, consider doing

- A hazard and risk analysis focusing on the healthcare facilities should be carried out, meaning that the healthcare facilities should be identified on a map and compared with flood zones where there is a probability of flooding. Note that this may include facilities providing services to this community but located elsewhere, e.g. a health center serving this community but located in a neighboring community that, when flooded, cannot provide essential services to this community. The assessment should include, for example; an assessment of what measures could be taken to ensure the facilities remain accessible and functioning in the event of a flood; contingency plans, including ‘flood access plans’ that highlight open access routes during floods; plans for the delivery of medical supplies; training and communication protocols for staff and options for alternative health service provision should the main facility be impacted and unable to operate.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
<p>Healthcare can generally continue to function during and after floods because:</p> <ul style="list-style-type: none"> - Healthcare facilities are located away from flood zones and are not affected in the event of major flooding. Should the healthcare facilities be located within a flood zone, they are organised in such a way that there is no negative impact on healthcare service provision. <p>AND</p> <ul style="list-style-type: none"> - Healthcare facilities are fully accessible during floods for all 	<p>Despite small impacts, healthcare can still be provided because:</p> <ul style="list-style-type: none"> - Healthcare facilities are located within flood zones and are impacted by flooding but they can continue to provide essential health services and staff and facilities remain accessible to the community. <p>OR</p> <ul style="list-style-type: none"> - Access to healthcare facilities is limited in some parts of the community because of the flooding. 	<p>Healthcare is significantly impacted during and after floods because:</p> <ul style="list-style-type: none"> - Healthcare facilities are impacted by flooding and provide essential services only <p>OR</p> <ul style="list-style-type: none"> - Access to healthcare is severely limited in some parts of the community because of the flooding. 	<p>Healthcare is impacted and will be unable to provide essential services, or no healthcare can be ensured during and after floods because:</p> <ul style="list-style-type: none"> - Healthcare facilities are severely affected (or destroyed) and there are no alternative service provisions <p>OR</p> <ul style="list-style-type: none"> - Access to healthcare is interrupted for extended periods of time and there is no alternative service provision. <p>OR</p>



relevant vulnerable (physically, socially or economically) groups.

- There is generally no functioning healthcare system.

Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Key Informant	Where are the healthcare facilities that provide services to this community located with respect to flood zones?	Healthcare facilities are in a location outside of flood hazards and were not affected in past flood events Healthcare facilities are in a location subject to minor flooding Healthcare facilities are in a location subject to significant flooding There are no healthcare facilities available to this community I don't know
Key Informant	If the healthcare facilities are affected by flooding, what would happen to the buildings and the services provided?	Healthcare facilities would not suffer damage and continue to provide full healthcare services Healthcare facilities would suffer only minor damage and continue to provide some healthcare services Healthcare facilities would suffer significant damage and would be unable to provide healthcare services There are no healthcare facilities available to this community I don't know
Key Informant	When flooding occurs in this community, would people be able to receive healthcare by accessing the corresponding healthcare facilities?	Healthcare continues and all groups, including all relevant vulnerable (physically, socially or economically) groups, can reach the healthcare facilities Healthcare continues to be provided for most people, with some remote locations in the community having problems to reach the healthcare facilities Healthcare continues to be provided only for some people with significant problems to reach the healthcare facilities Most of the community will be cut off from reaching the healthcare facilities There are no healthcare facilities available to this community I don't know
2nd Source	Where are the healthcare facilities that provide services to this community located with respect to flood zones?	Healthcare facilities are in a location outside of flood hazards and were not affected in past flood events Healthcare facilities are in a location subject to minor flooding Healthcare facilities are in a location subject to significant flooding There are no healthcare facilities available to this community
2nd Source	If the healthcare facilities are affected by flooding, what would	Healthcare facilities would not suffer damage and would continue to provide full healthcare services Healthcare facilities would suffer minor damage and would continue to provide some



	happen to the buildings and the services provided?	healthcare services Healthcare facilities would suffer significant damage and would be unable to provide healthcare services There are no healthcare facilities available to this community
2nd Source	When flooding occurs in this community, would the people be able to receive healthcare by reaching the corresponding facilities?	Healthcare continues and all groups, including all relevant vulnerable (physically, socially or economically) groups, can reach the healthcare facilities Healthcare continues to be provided for most people, with some remote locations in the community having problems to reach the healthcare facilities Healthcare continues to be provided only for some people with significant problems to reach the healthcare facilities Most of the community will be cut off from reaching the healthcare facilities There are no healthcare facilities available to this community



Physical Capital – P02: Early Warning Systems (EWS)

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Robustness	Enabling Environment	Preparedness	Life and Health	Yes	Yes

Definition: Early Warning Systems (EWS) can help significantly to save lives and reduce damage to assets during floods. A few hours warning can reduce the flood impact but to have truly significant effect, there should be a context specific analysis of the available lead time for the warning, taking into account all elements and variables of the possible flood scenarios. In certain contexts, an EWS may not be needed or may not really provide much benefit.

Notes: Assess all the elements that make an early warning system function properly such as:

- rainfall, soil moisture leading to the runoff (river flood) or prediction of tides and wind (coastal flood); AND
- appropriate technology to detect imminent floods and to transmit the warning to the relevant receivers using an integrated network; AND
- appropriate channels for the dissemination and understanding of the EWS message that leads to effective actions taken by those at risk.

The following data collection approaches may help: Household interviews to determine whether early warning is received by relevant community groups. For example, who receives the mobile phone early warning text message, is it only the men, or also the the women and the elderly? Do people understand what they are expected to do once they receive the text message? A key informant or a secondary source may help to assess the forecasting capability that the system provides. Note: The grading definitions are assessing the results of a functioning EWS, in other words, whether adequate warning leads to action. It is not analysing the 'root-cause' of why an EWS is dysfunctional, i.e. if a lack of measurement/forecasting ability, a lack of warning capability or a lack of transmission and understanding of the warning, is the cause of the problem. These aspects will need to be assessed separately should an improvement to the EWS be required.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
<ul style="list-style-type: none"> - The community has a well functioning EWS with a comprehensive management plan providing clear instructions to all relevant vulnerable (physically, socially or economically) groups and stakeholders. AND <ul style="list-style-type: none"> - The EWS is linked to the enabling environment such as good forecasting tools linked to the hydro-meteorological services. 	<ul style="list-style-type: none"> - A basic, local and informal EWS exists and reaches all relevant vulnerable (physically, socially or economically) groups and stakeholders. AND <ul style="list-style-type: none"> - Basic forecasting tools are linked to the EWS. 	An EWS exists but early warning does not reach all relevant vulnerable community groups.	Community is not covered by an effective EWS



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Does your household receive an early warning message (an alert) if flooding is imminent?	Yes, our household receives early warning that allows us to protect assets, livelihoods and to keep safe or get to safety (evacuate) Yes, our household receives some type of warning that allows us to just evacuate Our household receives some warning but we don't know what to do No, our household does not receive any early warning I don't know
Household	What actions would you consider taking if your household were to receive an early flood warning message (alert)? Please tick all options that apply.	We would prepare to protect assets and livelihoods We would move assets and livelihoods We would plan to evacuate We would not have enough time to protect assets and livelihoods We would not have enough time to evacuate We would stay safe in our home We would not trust such information and do nothing I don't know
Household	Did you receive a flood warning message (alert) when the last flood occurred that affected your household?	Yes, our household received early warning that allowed us to protect assets, livelihoods and kept our household safe Yes, our household received some type of warning to just evacuate Our household received some warning but we did not know what to do No, our household did not receive any warning We were not affected by flooding in the past I don't know
Focus Group	When flooding is imminent, what type of warning information is disseminated to the community?	An Early Warning System (EWS) exists and is activated early enough for citizens to protect their assets and livelihoods and to stay safe (at home or evacuate) An Early Warning System (EWS) exists that allows citizens to keep safe (stay home safe or evacuate) but time is too short to protect assets and livelihoods An Early Warning System (EWS) exists for experts / the authorities only, but not for community members to take action There is no Early Warning System (EWS) in this community
Focus Group	Is information about flooding distributed across the community so that all community groups, including all relevant vulnerable (physically, socially and economically) groups, can benefit from it?	Information about flooding is distributed in such a way that all, incl. vulnerable (physically, socially or economically) groups, can profit from it Information about flooding is selective and does not reach all relevant vulnerable (physically, socially or economically) groups Information about flooding is for experts / for the

		authorities only and not for community members There is no Early Warning System (EWS) in this community
Focus Group	Would community members in this community know what to do if they received early flood warning?	All citizens in this community are educated and informed about what to do with flood warnings Some but not all citizens in this community are educated and informed about what to do with flood warnings Only the authorities know what to do with flood warnings The community generally does not know what to do with flood warnings
Key Informant	How do flood forecasts and measurements work based on the relevant flood hazards that this community is exposed to? Please tick all options that apply.	Good and reliable technology provides flood forecasts from rainfall measurements Good and reliable technology provides flood forecasts from runoff measurements upstream Good and reliable technology provides flood forecasts from wind storms (coastal storm surge) Good and reliable technology provides flood forecasts from tidal measurements Good and reliable technology provides (flood) water levels real time Some basic technology provides flood water levels (e.g. with a time lag) There are no ways to forecast or measure floods I don't know
Key Informant	When flooding is imminent, what type of information is disseminated within the community?	An Early Warning System (EWS) exists and is activated early enough for citizens to protect their assets and livelihoods and to stay safe (at home or evacuate) An Early Warning System (EWS) exists that allows citizens to keep safe (stay home safe or evacuate) but time is too short to protect assets and livelihood An Early Warning System (EWS) exists for experts / the authorities only, but not for community members to take action There is no Early Warning System (EWS) in this community I don't know
Key Informant	Is information about flooding distributed across the community so all groups, including all relevant vulnerable groups (physically, socially or economically), can benefit from it?	Information about flooding is distributed in such a way that all, incl. vulnerable (physically, socially or economically) groups, can profit from it Information about flooding is selective and does not reach all vulnerable (physically, socially or economically) groups Information about flooding is available for experts / for the authorities only and not for community members to take action There is no, or no timely, early warning message / alert from an Early Warning System (EWS) in this community I don't know
2nd Source	How do flood forecasts and measurements work based on the relevant flood hazards that	Good and reliable technology provides flood forecasts from rainfall measurements Good and reliable technology provides flood forecasts from runoff measurements



	<p>this community is exposed to? Please tick all options that apply.</p>	<p>upstream Good and reliable technology provides flood forecasts from tidal measurements Good and reliable technology provides flood forecasts from wind storms (coastal storm surge) Good and reliable technology provides (flood) water levels real time Some basic technology provides flood water levels (e.g. with a time lag) There are no ways to forecast or measure floods</p>
2nd Source	<p>When flooding is imminent, what type of information is disseminated within the community?</p>	<p>An Early Warning System (EWS) exists and is activated early enough for citizens to protect their assets and livelihoods and to stay safe (at home or evacuate) An Early Warning System (EWS) exists that allows citizens to keep safe (stay home safe or evacuate) but time is too short to protect assets and livelihood An Early Warning System (EWS) exists for experts / the authorities only, but not for community members to take action There is no Early Warning System (EWS) in this community</p>
2nd Source	<p>Is information about flooding distributed across the community so all groups, including all relevant vulnerable (physically, socially or economically vulnerable) groups, can benefit from it?</p>	<p>Information about flooding is distributed in such a way that all, incl. vulnerable (physically, socially or economically) groups, can profit from it Information about flooding is selective and does not reach all vulnerable (physically, socially or economically) groups Information about flooding is for experts / for the authorities only and not for community members There is no, or no timely, communication from an Early Warning System (EWS) in this community</p>

Physical Capital – P03: Flood emergency infrastructure

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Resourcefulness	Community Level	Preparedness	Life and Health		Yes

Definition: This source looks at the physical elements that help community members prepare and respond in the event of flooding, for example:

- emergency equipment for safe evacuation and search & rescue including, shovels, life vests, boats etc;
- infrastructure necessary to respond with the flooding, for example, safe evacuation locations or shelters depending on the duration of the flood conditions;
- equipment necessary for clean-up and recovery operations, such as protective clothing and machinery for removing flood waters and debris etc.

Notes: For the three elements of flood emergency infrastructure (equipment, response infrastructure & operations, recovery infrastructure & operations), assess the following aspects:

- Is the infrastructure (and the processes in place) appropriate to the flood hazards and scenarios - it would not be appropriate to have shovels aimed at flash flood hazards when there is long-standing flooding instead, or to have sand bags and the ability to build up temporary dykes if there is no system to receive timely warning). Scenario means also geographical - is equipment only stored in one place of the city where it is expected to flood but suddenly it is required somewhere unexpected;
- Is the infrastructure adequate for the size and type of population groups that need to be protected;
- Are procedures and equipment in place for immediate post-flood recovery operations.

We suggest to not use Household Interviews for this source unless it is for triangulation / verification only, as it will be difficult for an individual householder to judge the overall adequacy of flood emergency infrastructure for the entire community.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
- For all flood scenarios, all groups, including all relevant vulnerable (physically, socially or economically) groups in the community, have access to the appropriate infrastructure and equipment to protect lives and livelihoods. AND - There is a comprehensive maintenance plan for flood emergency infrastructure and equipment.	Flood emergency infrastructure and equipment is generally accessible by the community, reasonably maintained and appropriate for most (but not all) flood scenarios.	The flood emergency infrastructure available provides some benefit, it is however unsuitable for the purpose or inadequate in terms of number or state of repair.	- The community has no specific flood emergency infrastructure or equipment to cope with the impact of floods. OR - There is no plan for the management or maintenance of the flood emergency infrastructure equipment and they may not be accessible or useable during a flood emergency.

Data collection methods, questions and answer options for this source:



Method	Question	Answer Options
Household	In the event of a flood emergency, would the following be accessible to your household? Please tick all options that apply.	Safe escape routes Boats 4x4 Trucks Life vests Tools (e.g. shovels and ladders) Emergency communication equipment Protective clothing Nothing would be available to us I don't know
Household	To help you to safeguard your assets during and after flooding, which of the following would be available to you? Please tick all options that apply.	Sand bags Elevated temporary structures Safe emergency shelters Repair materials stored safely Pumps or other gear to remove flood waters Nothing would be available to us I don't know
Household	Do you trust that the flood emergency equipment is in a good state of repair and that it would function properly?	Yes No I don't know
Focus Group	To support flood evacuation and Search & Rescue; which of the following does the community have in sufficient quantity and in a good state of repair? Please tick all options that apply.	Safe escape routes Boats 4x4 Trucks Life vests Tools (such as e.g. shovels and ladders) Emergency communication equipment Protective clothing We have some equipment but it is not maintained / it is defective We have some equipment but not enough for everyone who needs it None of the above
Focus Group	To support people both in coping with floods and during recovery, and being able to safeguard their assets during and after flooding, which of the following does the community have in a good state of repair and that can be used in a timely manner? Please tick all options that apply.	Sand bags Mobile dykes Elevated temporary structures Safe emergency shelters Repair materials stored safely Pumps or other gear to remove flood waters Heavy duty equipment for repairs and reconstruction We have some equipment but it is not maintained / it is defective We have some equipment but not enough for everyone who needs it None of the above
Key Informant	To support flood evacuation and Search & Rescue; which of the following do you provide to the community in sufficient quantity and in a good state of repair? Please tick all options that apply.	Safe escape routes Boats 4x4 Trucks Life vests Tools (such as e.g. shovels and ladders) Emergency communication equipment Protective clothing We have some equipment but cannot maintain it / it is defective We have some equipment but not enough for everyone who needs it None of the above



Key Informant	To support people both in coping and during recovery, and being able to safeguard their assets during and after flooding, which of the following do you provide to the community in a good state of repair and that can be used in a timely manner? Please tick all options that apply.	Sand bags Mobile dykes Elevated temporary structures Safe emergency shelters Repair materials stored safely Pumps or other gear to remove flood waters Heavy duty equipment for repairs and reconstruction We have some equipment but we cannot maintain it / it is defective We have some equipment but not enough of it for everyone who needs it None of the above
2nd Source	To support flood evacuation and Search & Rescue; which of the following is available to the community in sufficient quantity and in a good state of repair? Please tick all options that apply.	Safe escape routes Boats 4x4 Trucks Life vests Tools (such as e.g. shovels and ladders) Emergency communication equipment Protective clothing There is some equipment but it is not maintained / it is defective There is some equipment but not enough for everyone who needs it None of the above
2nd Source	To support people in coping and during the recovery, and being able to safeguard their assets during and after flooding, which of the following is available to the community in a good state of repair and that can be used in a timely manner? Please tick all options that apply.	Sand bags Mobile dykes Elevated temporary structures Safe emergency shelters Repair materials stored safely Pumps or other gear to remove flood waters Heavy duty equipment for repairs and reconstruction There is some equipment but it is not maintained / it is defective There is some equipment but not enough of it for everyone who needs it None of the above



Physical Capital – P04: Provision of education

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Robustness	Community Level	Recovery	Livelihoods		Yes

Definition: Any interruption in school education leads to problems (children at home instead of daily rhythm at school). The continuity of schooling during floods should obviously be conducted only where and when it is safe to do so, and it is depending on the flood scenario. For flash flood situations, rapidity and robustness is key and schooling should resume as soon as possible. For long-standing, large-scale standing water flood situations, it is important that schooling can continue, such as in alternative, safe locations.

Notes: In order to collect necessary information and to better grade this source, consider doing the following:

- The schools need to be identified on a map and compared with flood zones indicating the probability and severity of flooding. In other words, a small hazard and risk analysis focusing on the school facilities should be carried out. School facilities may include facilities providing services to this community but located elsewhere.
- Assess the strategy for school buildings to remain accessible and operational during floods including the contingency plans and trainings to keep the school education running.
- Consider what plans are in place to ensure that different groups in the community can access schooling and education or how education will get to them in case of flooding. This may be in the form of flood access plans that highlights which routes are (kept) open during floods to reach teachers, or teachers reaching children in a safe, temporary place in the absence of the school building. Also consider whether e.g. boys' and girls' schools may be affected differently.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
<p>Education continues during and after floods because:</p> <ul style="list-style-type: none"> - The school buildings (facilities) are located away from flood zones and will not be affected by flooding. Should the school buildings be located within a flood zone, they are constructed and their flood risk is managed such that there are no negative impacts <p>AND</p> <ul style="list-style-type: none"> - School facilities are accessible and can be safely reached during floods, or alternative 	<p>Despite being affected, education can still be provided because:</p> <ul style="list-style-type: none"> - School facilities, despite located within a flood zone and being affected, can maintain sufficient basic operations, staffing and equipment to provide minimum education services <p>OR</p> <ul style="list-style-type: none"> - Access to school education is limited in several locations of the community <p>OR</p> <ul style="list-style-type: none"> - Any interruption to education is of very short duration and will not 	<p>Education is significantly impacted for an extended period of time during and after floods because:</p> <ul style="list-style-type: none"> - School facilities are impacted by floods and can continue some but not all essential services as needed <p>OR</p> <ul style="list-style-type: none"> - Access to school is limited in several parts of the community, especially for relevant vulnerable (physically, 	<p>Education is impacted and will be unable to provide essential services, or no education for an extended period of time can be ensured during and after floods because:</p> <ul style="list-style-type: none"> - School are severely affected (or destroyed) by flooding and become inoperational with no alternative provisions <p>OR</p> <ul style="list-style-type: none"> - Access to school will be interrupted for extended periods of time with no alternative provisions <p>OR</p>

arrangements allow teachers and school children to meet in a safe temporary place.	significantly affect the school curriculum.	socially or economically) groups and stakeholders.	- There is no functioning education system
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Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	During and after a flood, what will happen to the school(s) in this community?	School does not flood School is flooded in a minor way School is flooded significantly There is no school for our community I don't know
Household	Should the school(s) be affected by flooding, what would happen?	School is not damaged at all and will remain open School sustains minor damage but will remain open School is heavily damaged and will close I don't know
Household	During and after floods, based on where floods cause problems within the community, can your household reach the school?	Our household can reach the school during and after floods without problems There are small problems for us to reach the school during and after floods There will be big problems for us to reach the school during and after floods Our household cannot get access to school I don't have children at school age I don't know
Focus Group	Where are school facilities located that provide services to this community with respect to flood zones?	School facilities are in an area outside of flood hazards and was unaffected in past flood events School facilities are in an area subject to minor flooding School facilities are in an area subject to significant flooding There are no school facilities available to this community
Focus Group	Should the school facilities be affected by flooding, what would happen to the buildings and the services provided?	School facilities would not suffer damage and continue to provide full school services School facilities would suffer minor damage and continue to provide some school services School facilities would suffer significant damage and be unable to provide school services There are no school facilities available to this community
Focus Group	When flooding occurs in this community, would the students be able to reach the corresponding school facilities?	Education continues to be provided for all, including the most vulnerable and minority groups Education continues to be provided for most with small remote locations in the community having problems Education continues to be provided



		only for some with significant problems Most of the community will be cut off from education There are no school facilities available to this community
Key Informant	Where are school facilities located that provide services to this community with respect to flood zones?	School facilities are in an area outside of flood hazards and was unaffected in past flood events School facilities are in an area subject to minor flooding School facilities are in an area subject to significant flooding There are no school facilities available to this community I don't know
Key Informant	Should the school facilities be affected by flooding, what would happen to the building and the services provided?	School facilities would not suffer damage and continue to provide full school services School facilities would suffer minor damage and continue to provide some school services School facilities would suffer significant damage and be unable to provide school services There are no school facilities available to this community I don't know
Key Informant	When flooding occurs in this community, would the students be able to reach the corresponding school facilities?	Education continues to be provided for all, including the most vulnerable and minority groups Education continues to be provided for most with small remote locations in the community having problems Education continues to be provided only for some with significant problems Most of the community will be cut off from education There are no school facilities available to this community I don't know
2nd Source	Where are school facilities located that provide services to this community with respect to flood zones?	School facilities are in an area outside of flood hazards and was unaffected in past flood events School facilities are in an area subject to minor flooding School facilities are in an area subject to significant flooding There are no school facilities available to this community
2nd Source	Should the school facilities be affected by flooding, what would happen to the building and the services provided?	School facilities would not suffer damage and continue to provide full school services School facilities would suffer minor damage and continue to provide some school services School facilities would suffer significant damage and be unable to provide school services There are no school facilities available to this community
2nd Source	When flooding occurs in this community, would the students be able to reach the corresponding school facilities?	Education continues to be provided for all, including the most vulnerable and minority groups Education continues to be provided for most with small remote locations in the community having problems Education continues to be provided



only for some with significant problems | Most of the community will be cut off from education | There are no school facilities available to this community



Physical Capital – P05: Household flood protection

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Robustness	Community Level	Recovery	Livelihoods		Yes

Definition: This source is about the measures people have planned in normal times in order to protect assets at a household level during floods: What do households do to effectively protect their assets from flood loss and/or damage. Aspects to consider are:

- Keep water away from assets located inside the flood areas (e.g. putting up flood barriers);
- Raise levels (either the entire house or raising assets through raised shelves etc);
- Protect critical infrastructure (e.g. electric wiring locations).

Notes: Household protection refers to the actions that individual householders take to protect their own assets, without creating any adverse effects for the neighbors, i.e. "moving flood waters downstream into neighboring houses" would not be considered appropriate.

Also consider that it would not be OK if the 20% most vulnerable groups (socially, physically or economically vulnerable) of the community are excluded from taking appropriate measures and only the 80% rich do take measures.

This source is about the "doing" piece of flood protection - it is different from knowledge (human capital) which looks at what people know about protecting themselves and their property.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
More than 80% of households have taken at least 2 appropriate protection measures which were planned in normal times that protect them from damage or total destruction or loss of assets during floods.	More than 50% of households take at least one appropriate measure that protects them from damage or total destruction or loss of assets during floods.	20-50% of households take some type of protection measure (such as ad-hoc, improvised) to limit damage and avoid total destruction or total loss of assets during floods.	- Less than 20% of community households take proactive measures to protect assets. OR - Measures taken and identified during assessment are not suitable to protect households from flooding.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	What measures do you take around your home to keep your property and assets safe from flood water? Please tick all options that apply.	Flood barrier or sand bags Wall around house Raised house Raised floors inside Divert flood water (e.g. diversion channel) Move house Other None of the above
Household	In the last flood(s) that affected your household; which of the following helped you protect yourself and your assets? Please tick all options that apply.	Flood barrier or sand bags Wall around house Raised house Raised floors inside Divert flood water (e.g. diversion channel) Move house Other None of the above
Household	In your house, to reduce losses when flooding, what measures do you take? Please tick all options that apply.	Use upper floor for storage Flood proofed building Flood proofed storage / contents Building built/upgraded to latest building code I can remove my important assets quickly when the flood comes Store assets in flood-proof boxes / container Other None of the above
Key Informant	Assess the range of protection measures available to the households in that community. What percentage of households take appropriate individual flood protection measures?	More than 80% of households take at least 2 appropriate protection measures that protect them More than 50 to up to 80% of households take at least one appropriate measure that protects them 20-50% of households take some type of protection measure to limit damage and avoid total destruction The majority of households have no protection or the protection is not effective I don't know
Key Informant	To assess the range of protection measures available to the households in that community, what typical flood protection measures are households taking? Please tick all options that apply.	Flood barrier or sand bags Wall around house Raised house Raised floors inside Divert flood water (e.g. diversion channel) Move house Other None of the above I don't know
2nd Source	Assess the range of protection measures available to the households in that community. What percentage of households take	More than 80% of households take at least 2 appropriate protection measures that protect them More than 50 to up to 80% of households take at least one appropriate measure that protects them 20-50% of households take some type of



	appropriate individual flood protection measures?	protection measure to limit damage and avoid total destruction The majority of households have no protection or the protection is not effective
2nd Source	To assess the range of protection measures available to the households in that community, what typical flood protection measures are households taking? Please tick all options that apply.	Flood barrier or sand bags Wall around house Raised house Raised floors inside Divert flood water (e.g. diversion channel) Move house Other None of the above



Physical Capital – P06: Large scale flood protection

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Robustness	Community Level	Corrective Risk Reduction	Assets		

Definition: These types of flood protection measures are organized at or above the community level (e.g. community-wide, integrated with neighboring communities or at regional, state or watershed level) and not at the household level. Various elements of physical and non-structural protection must be considered that this community benefits from. The assessment of the adequacy of such measures needs to include their design in relation to the hazard level, the quality of the work and issues of maintenance as well as any future measures required to upgrade them. Ensure considering not just grey but also green infrastructure.

Notes: Large-scale flood protection means integrated flood protection infrastructure or approaches at or above the community level that a large part or all areas of the community profit from. They can be organized by and in ownership of the community or at a higher level, i.e. a inter-community protection scheme, a watershed protection mutual arrangement or agency responsible, or a regional or state organization or government office providing these protection measures.

Adequacy means the protection measures taken at community level are protecting against the relevant flood hazards, processes and intensities (e.g. the 100 year return period = 1 percent annual chance flood). Reliability means the protection measures are considered to function according to design and plan in an actual event. This relates to providing maintenance and clear ownership of the corresponding protection measure and the tasks needed to maintain and operate them. There may be relations to the overall basin / watershed management. This source needs an expert opinion. Household interviews are not suitable for this source. If a Focus Group is used this should only be for triangulation purposes in terms of what the community thinks about the protection measures, and their past experiences with them.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
The community and its communal assets are protected through a combination of structural and non-structural flood protection measures (levees, river bank stabilization, adequate vegetation, the location and protection of all/most community physical structures and communal infrastructure). Aspects of reliability, adequacy, inclusiveness, maintenance and ownership are taken into account.	The community and its communal assets are protected adequately from floods. Aspects of reliability, adequacy, inclusiveness, maintenance and ownership are taken into account.	The community benefits from limited protection measures both in terms of extent and adequacy.	- There are no flood protection measures in place this community benefits from. OR - Flood protection is inadequate.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Focus Group	Which of the following flood protection measures do you know are available at or above community level that this community benefits from? Please tick all options that apply.	Ecosystem restoration, such as vegetation to prevent river bank erosion River bank stabilization River levees and embankments Dams and reservoirs to store flood water Flood walls and barriers around the community Sandbags and other mobile protection for the entire community River bottom dredging Community infrastructure adaptation (relocation etc.) Strict building codes None of the above
Focus Group	Have the flood protection measures been successful in reducing flood losses and damages in recent floods? Please tick all options that apply.	Yes, they have provided good protection for all Yes, they have provided some protection to some parts of the community No, they have been inadequate There are no community-level flood protection measures available There have been no floods in which the protection measures were applied
Focus Group	Do you trust that the flood protection measures will be successful in the future in reducing flood losses and damages? Please tick all options that apply.	Yes, they will provide good protection for all Yes, they will provide some protection to some parts of the community No, they will be inadequate There are no community-level flood protection measures available or planned in the near future
Key Informant	Think about flood protection at or above the community level and the diversity of measures available. What measures are available, and what conditions apply to them? Choose those statements which are true. Please tick all options that apply.	There is a good mix of structural and non-structural measures The measures combine and integrate various approaches There is only one type of measures available There are large-scale flood protection measures available that this community benefits from I don't know
Key Informant	Think about flood protection at or above the community level and the adequacy of measures available. What measures are available, and what conditions apply to them? Choose those statements which are true. Please tick all options that apply.	They provide protection to all of the community They provide protection only to parts of the community They protect even against severe floods They protect only against smaller floods They are inadequate and do not provide good protection There are no community-level flood protection measures available I don't know

Key Informant	Think about flood protection at or above the community level and the reliability of measures available. What measures are available, and what conditions apply to them? Choose the statements which are true. Please tick all options that apply.	They are well maintained They are adequately maintained There is no maintenance plan Ownership and responsibility for maintenance is clear Ownership and responsibility is mostly clear There is no clear ownership or responsibility There are no community-level flood protection measures available I don't know
Key Informant	Which of the following flood protection measures do you know are being used that benefit this community? Please tick all options that apply.	Ecosystem restoration, such as vegetation to prevent river bank erosion River bank stabilization River levees and embankments Dams and reservoirs to store flood water Flood walls and barriers around the community Sandbags and other mobile protection for the entire community River bottom dredging Community infrastructure adaptation (relocation etc.) Strict building codes None of the above I don't know
2nd Source	Thinking about large-scale flood protection and the diversity of measures available, which of the following statements are true? Please tick all options that apply.	There is a good mix of structural and non-structural measures The measures combine and integrate various approaches There is only one type of measures available There are no community-level flood protection measures available
2nd Source	Thinking about large-scale flood protection and the adequacy of measures available, which of the following statements are true? Please tick all options that apply.	They provide protection to all of the community They provide protection only to parts of the community They protect even against severe floods They protect only against smaller floods They are inadequate and do not provide good protection There are no community-level flood protection measures available
2nd Source	Thinking about large-scale flood protection and the reliability of measures available, which of the following statements are true? Please tick all options that apply.	They are well maintained They are adequately maintained There is no maintenance plan Ownership and responsibility for maintenance is clear Ownership and responsibility is mostly clear There is no clear ownership or responsibility There are no community-level flood protection measures available
2nd Source	Which of the following flood protection measures are being used that provide benefits for this community? Please tick all options that apply.	Ecosystem restoration, such as vegetation to prevent river bank erosion River bank stabilization River levees and embankments Dams and reservoirs to store flood water Flood walls and barriers around the community Sandbags and other mobile protection for the entire community River bottom dredging Community infrastructure adaptation (relocation etc.) Strict building codes None of the above



Physical Capital – P07: Transportation interruption

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Redundancy	Community Level	Response	Lifelines		

Definition: Roads and foot paths, rail services and other means of transportation such as river boats provide important connections both for daily life (getting to and from work, markets, family, friends etc.) as well as for emergency services and emergency accessibility to and from the community.

Notes: Assess the typical modes of travel in the community (who travels, frequency, structures such as roads and vehicles); personnel availability; services provided (public transport) and how they could be interrupted by comparing them with flood maps or scenarios of critical interruptions during and after flooding, such as roads and rail services that become impassable or unsafe during flooding; bridges and other structures that could collapse or get damaged. Also assess whether alternatives for transport arrangements have been pre-planned and are ready to be put in place during and after flooding.

Note: While overall, this source is mapped to ‘redundancy’ (which means at least some transport options need to remain open), this does not mean that each individual transport aspect needs to be redundant in itself (for example, you don't need redundancy for each bridge etc.). For example, a single bridge can be particularly robust, while some areas of the footpath that cannot be reasonably protected are always being repaired by an ingenious crew of workers who are resourceful to find the right solution.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
<p>The essential community transportation links remain functional to all of the community during and after floods to ensure the continuous functioning of the community in terms of work, access to markets, satisfying daily needs, etc. between people and services.</p> <p>Note: Small interruptions to transportation routes may be acceptable in non-critical and non-threatening situations.</p>	<p>The main community transportation routes remain generally open or can be quickly restored through a practiced and regularly updated transportation contingency plan. This allows the community to maintain the principal transportation links between people and services during and after floods. While limited interruptions can and do occur, they are not significant enough to undermine the overall access to main areas of the community.</p>	<p>Community transportation links are affected, restricting access to/from the community. Links between people and services are interrupted but not for a significant amount of time or are, if significant, not so critical as to undermine the continuous functioning of the community.</p>	<p>- Community transportation is seriously affected. OR - There is no functioning transport system.</p>



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Which of these transportation means are essential for your household to access the community and conduct daily business (visit the market, go to the next village, visit friends and neighbors, earn your livelihoods)? Please tick all options that apply.	Single road Multiple roads Footpaths Railway Boat Bridge Other I have none available I don't know
Household	Which of these transportation means will be affected/destroyed and will therefore become inaccessible to your household during flooding? Please tick all options that apply.	Single road Multiple roads Footpaths Railway Boat Bridge Other I have none available I don't know
Household	Which of these transportation means are safe during flooding and will remain fully functional for your household? Please tick all options that apply.	Single road Multiple roads Footpaths Railway Boat Bridge Other I have none available I don't know
Focus Group	Which of these transportation means are essential for the community for access and to conduct daily business (visit the market, go to the next village, visit friends and neighbors, earn livelihoods)? Please tick all options that apply.	Single road Multiple roads Footpaths Railway Boat Bridge Other I have none available I don't know
Focus Group	Which of these transportation means will be affected/destroyed and will therefore become inaccessible to the community during flooding? Please tick all options that apply.	Single road Multiple roads Footpaths Railway Boat Bridge Other I have none available I don't know
Focus Group	How will the community be affected by loss of the aforementioned transportation means during and after a flood? Please tick all options that apply.	The community will not be affected The community will not be significantly affected Parts of the community with vulnerable or minority groups will be significantly affected Parts of the community where critical infrastructure or activity is located will be significantly affected The entire



		community will be partially affected The entire community will be significantly affected Other
Key Informant	Which of these essential transportation means will be affected/destroyed and will therefore become inaccessible to the community during flooding? Please tick all options that apply.	Single road Multiple roads Footpaths Railway Boat Bridge Other None affected There are non available I don't know
Key Informant	How will the community be affected by loss of the aforementioned transportation means during and after a flood? Please tick all options that apply.	The community will not be affected The community will not be significantly affected Parts of the community with vulnerable or minority groups will be significantly affected Parts of the community where critical infrastructure or activity is located will be significantly affected The entire community will be partially affected The entire community will be significantly affected Other I don't know
Key Informant	What are the plans for the community to restore affected transportation means or provide alternative transportation solutions?	An up-to-date, practiced transportation contingency plan is in place An adequate contingency plan is in place There is a plan but it is not formal There is no contingency plan I don't know
2nd Source	Which of these essential transportation means will be affected/destroyed and will therefore become inaccessible to the community during flooding? Please tick all options that apply.	Single road Multiple roads Footpaths Railway Boat Bridge Other None affected There are non available
2nd Source	How will the community be affected by loss of the aforementioned transportation means during and after a flood? Please tick all options that apply.	The community will not be affected The community will not be significantly affected Parts of the community with vulnerable or minority groups will be significantly affected Parts of the community where critical infrastructure or activity is located will be significantly affected The entire community will be partially affected The entire community will be significantly affected Other
2nd Source	What are the plans for the community to restore affected transportation means or provide alternative transportation solutions?	An up-to-date, practiced transportation contingency plan is in place An adequate contingency plan is in place There is a plan but it is not formal There is no contingency plan



Physical Capital – P08: Communication interruption

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Rapidity	Enabling Environment	Response	Lifelines	Yes	Yes

Definition: Communication means such as landline telephone, cellphone telephone, radio two-way communication, internet etc. provide important communication services both for daily life necessities and before / during a crisis, by providing early warning, evacuation advice, information about recovery options etc.

Notes: Assess the typical communication means in the community (who are the main users, frequency, purpose and the type of infrastructure used); personnel availability; services provided (service provider and maintenance) and how they could be interrupted by comparing the necessary infrastructure (sender, transmitter, receiver) with flood maps or scenarios of critical interruptions during and after flooding. Examples include cellphone towers interrupted, telephone stations flooded and out of service, or users being unable to use their devices. Consider how planned alternatives or backups can be put in place during and after flooding as well as who is responsible for maintaining or repairing them.

Assess also whether the communication channels could cope with the increased demand / load that may be put onto the system during and after crises. Also look at non-traditional or more local communication solutions, such as house-to-house messengers, information boards, FM radio or similar.

Note: While overall, this source is mapped to rapidity (communication can continue to function or rapidly be restored) this does not mean that each individual communication item needs to be 'rapid' but could fall into another of the 4R categories (for example, the single cellphone tower can be particularly robust).

A grade criteria	B grade criteria	C grade criteria	D grade criteria
Key communication means remain functional, reliable and accessible (i.e. public phone services) for all groups including relevant vulnerable (physically, socially or economically) groups of the community during and after floods to ensure the basic continuous functioning of the community in terms of work, access to markets, satisfying daily needs. Note: Small interruptions to communication networks may be acceptable in non-critical and non-threatening situations.	Key communication means remain generally functional or can be quickly restored through a tested, practiced and regularly updated telecommunication contingency plan. While limited interruptions can and do occur, they do not undermine the overall ability of the community to communicate with each other locally and externally.	Community communication means are affected, restricting the ability of the community to communicate with each other locally and externally. Interruptions are not lengthy or are, if substantial, not so critical that they would undermine the overall functioning of the community.	- Community communication is seriously affected. OR - There is no functioning communication system.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Which of these communication means are essential for your household to communicate with the community (report accidents or illnesses, communicate with friends or family, for livelihoods, etc.)? Please tick all options that apply.	Mobile phone Landline phone Radio TV Internet Newspaper Local discussions Our household has no access to this type of communication means Other I don't know
Household	Which of these communication means will be affected/destroyed and will therefore be unavailable to your household during flooding? Please tick all options that apply.	Mobile phone Landline phone Radio TV Internet Newspaper Local discussions Our household has no access to this type of communication means Other I don't know
Household	In your opinion, during and after floods, can the community maintain emergency communication means through one or several of the following? Please tick all options that apply.	Mobile phone Landline phone Radio TV Internet Newspaper Local discussions Our household has no access to this type of communication means Other I don't know
Focus Group	Which of these communication means are essential for the community to communicate with one another (report accidents or illnesses, communicate with friends or family, for livelihoods, etc.)? Please tick all options that apply.	Mobile phone Landline phone Radio TV Internet Newspaper Local discussions Community has no communication infrastructure Other
Focus Group	Which of these communication means will be affected/destroyed and will therefore be unavailable to the community during flooding? Please tick all options that apply.	Mobile phone Landline phone Radio TV Internet Newspaper Local discussions Community has no communication infrastructure Other
Focus Group	How will the community be affected by loss of the aforementioned communication means during and after a flood?	The community will not be affected The community will not be significantly affected Parts of the community with vulnerable or minority groups will be significantly affected Parts of the community where critical infrastructure or activity is located will be significantly affected The entire community will be somewhat

		affected The entire community will be significantly affected
Key Informant	Which of these communication means will be affected/destroyed and will therefore be unavailable to the community during flooding? Please tick all options that apply.	Mobile phone Landline phone Radio TV Internet Newspaper Local discussions Community has no communication infrastructure Other I don't know
Key Informant	How will the community be affected by loss of the aforementioned communication means during and after a flood?	The community will not be affected The community will not be significantly affected Parts of the community with vulnerable or minority groups will be significantly affected Parts of the community where critical infrastructure or activity is located will be significantly affected The entire community will be somewhat affected The entire community will be significantly affected I don't know
Key Informant	What are the plans for the community to restore affected communication means in the event of a flood emergency?	An up-to-date, practiced communication contingency plan is in place An adequate contingency plan is in place There is a plan but it is not formal There is no contingency plan I don't know
2nd Source	Which of these communication means will be affected/destroyed and will therefore be unavailable to the community during flooding? Please tick all options that apply.	Mobile phone Landline phone Radio TV Internet Newspaper Local discussions Community has no communication infrastructure Other
2nd Source	How will the community be affected by loss of the aforementioned communication means during and after a flood?	The community will not be affected The community will not be significantly affected Parts of the community with vulnerable or minority groups will be significantly affected Parts of the community where critical infrastructure or activity is located will be significantly affected The entire community will be somewhat affected The entire community will be significantly affected



2nd Source

What are the plans for the community to restore affected communication means in the event of a flood emergency?

An up-to-date, practiced communication contingency plan is in place | An adequate contingency plan is in place | There is a plan but it is not formal | There is no contingency plan



Physical Capital – P09: Flood emergency food supply

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Rapidity	Enabling Environment	Response	Lifelines	Yes	Yes

Definition: This source assesses the amount and quality of food available during and after floods, in terms of what is essential for an individual to continue a healthy life. The source considers the security of the food stocks and the stability of the food supply. It is important to consider the sort of diet and calorie intake that can be maintained during floods compared to the non-flood period.

Notes: Assess what arrangements are made to ensure emergency food stocks and supplies are available and accessible to those in need in the community during and after floods. Where is food kept and how is it kept safe? How is it distributed in the community? Are there arrangements for a communal food storage area, and is it located outside of the flood zone? Is there anything to prevent the food being distributed equitably? Are people able to cook and eat that emergency food?

A grade criteria	B grade criteria	C grade criteria	D grade criteria
Food stocks are planned for and stored in a safe location, outside of the flood zone and available to those in need during and after floods. The food supply chain is not affected and neither food availability nor quality (nourishment, calorie intake) of food for all relevant groups including vulnerable (physically, socially or economically) groups is diminished.	The community can access the food stocks or maintain the food supply chain and handle or bridge shortages adequately to achieve essential nourishment and calorie intake. Degraded quality may be acceptable but not reduced calorie intake.	There are limited food emergency stocks for flood situations in place, or stocks can be significantly affected by floods because they are not stored safely. While the community can access some minimal food supplies, this will likely lead to reduced calorie intake.	The community has no emergency food stocks and is unable to obtain emergency food supplies during and after floods without external assistance.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	In the case of flooding, is the amount and quality of food you eat significantly changed or reduced?	The food for our household does not reduce neither in amount nor quality The food for our household is reduced in quality but not in amount The food for our household is reduced in amount but not quality The food for our household is reduced both in quality and in amount I don't know
Household	Are your cooking facilities destroyed, damaged or unusable during and after flooding?	No, our cooking facilities are not affected by floods Yes, some cooking facilities are affected Yes, all cooking facilities are unavailable to our household after floods I don't know
Household	In the case of flooding, will the community help to provide emergency food supplies for those households who may need it?	Yes, the community has plans in place to provide emergency food supplies Yes, the community usually provides emergency food supplies No, the community has no plan to provide emergency food supplies I don't know
Focus Group	In the case of flooding, is the amount and quality of food available to citizens in the community significantly changed or reduced?	The food does not reduce neither in amount nor quality throughout the community The food is reduced in quality but not in amount for some of the community The food is reduced in amount but not quality for some of the community The food is reduced both in quality and in amount throughout the community
Focus Group	In the case of flooding, will the community help to provide emergency food supplies for those households who may need it?	Yes, the community has up-to-date plans in place to provide emergency food supplies Yes, the community usually provides emergency food supplies but not following a detailed plan No, the community has no plan to provide emergency food supplies
Focus Group	Does the community have a dedicated food emergency supply storage?	Yes, there is a dedicated food storage area and it is safe from flooding Yes, there is a dedicated food storage but it can be affected from flooding Yes, there is an informal, temporary food supply for the flooding season No, there is no emergency food storage
Key Informant	In the case of flooding, is the amount and quality of food available to	The food does not reduce neither in amount nor quality throughout the community The food is reduced in quality but not in amount for some of the community The food is reduced in

	citizens in the community significantly changed or reduced?	amount but not quality for some of the community The food is reduced both in quality and in amount throughout the community I don't know
Key Informant	In the case of flooding, will the community help to provide emergency food supplies for those households who may need it?	Yes, the community has up-to-date plans in place to provide emergency food supplies Yes, the community usually provides emergency food supplies but not following a detailed plan No, the community has no plan to provide emergency food supplies I don't know
Key Informant	Does the community have a dedicated food emergency supply storage?	Yes, there is a dedicated food supply storage and it is safe from flooding Yes, there is a dedicated food supply storage but it can be affected from flooding Yes, there is an informal, temporary food supply for the flooding season No, there is no emergency food supply I don't know
2nd Source	In the case of flooding, is the amount and quality of food available to citizens in the community significantly changed or reduced?	The food does not reduce neither in amount nor quality throughout the community The food is reduced in quality but not in amount for some of the community The food is reduced in amount but not quality for some of the community The food is reduced both in quality and in amount throughout the community
2nd Source	In the case of flooding, will the community help to provide emergency food supplies for those households who may need it?	Yes, the community has up-to-date plans in place to provide emergency food supplies Yes, the community usually provides emergency food supplies but not following a detailed plan No, the community has no plan to provide emergency food supplies
2nd Source	Does the community have a dedicated food emergency supply storage?	Yes, there is a dedicated food supply storage and it is safe from flooding Yes, there is a dedicated food supply storage but it can be affected from flooding Yes, there is an informal, temporary food supply for the flooding season No, there is no emergency food supply



Physical Capital – P10: Flood safe water

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Robustness	Community Level	Response	Lifelines		Yes

Definition: Maintaining the supply of clean water and the safe evacuation of waste water is essential during and after floods.

Everybody in the community has access to enough safe and clean water - look at potable (drinking) as well as service water for livelihood activities (animals, livelihood production etc.). Such water supplies assessment needs to include:

- Sources; - Storage; - Quality; - Maintenance.

Secondly, waste water needs to be protected by elevation or flood proofing it so it cannot contaminate the community, especially the clean water supply and the open water sources (wells, creeks, rivers). This includes private and public toilets, latrines, waste water evacuation infrastructure (pipes etc.) as well as the storage of waste water.

Notes: This source needs to assess both clean and waste water facilities and infrastructure:

- Potable water supply and the water supply for services and livelihood activities and
- Evacuation and processing or storage of waste water, typically from latrines / public and private household toilets as well as other waste water sources such as industrial waste water (factories, farms, kitchens, etc.)

While this source of resilience overall is mapped to robustness (the water supply system is robust to flooding), individual water sources may follow another of the resilience properties, i.e. the well distribution in the community is such that multiple wells can provide redundancy, etc.

Chlorination tablets and other chemical treatment can be acceptable for water with limited sediment load (i.e. clear water) in simpler environments. Wastewater treatment plants and redundant clean water supplies need to be available in more complex conditions. Also assess where potable water sources (wells or bottling or treatment plants providing clean water) are connected to the flood plain and if they get flooded, what the consequences would be.

Household level data should provide a disaggregation of data to assess whether equitable access during and after floods is possible. If household level data is not available, assessors should use their own judgment based on other data input methods. This source does not look at overall equity but only at equitable access in flood specific situations.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
<p>All groups, including relevant vulnerable (physically, socially or economically) groups of the community, have both</p> <ul style="list-style-type: none"> - a reliable clean water supply (either from multiple reliable sources or from individual robust sources) <p>AND</p> <ul style="list-style-type: none"> - reliable waste water systems, both of which are not damaged and remain operational during and after floods. 	<p>The community has both</p> <ul style="list-style-type: none"> - a clean water supply <p>AND</p> <ul style="list-style-type: none"> - waste water systems, which continue to function with minimal interruptions during and after floods. 	<p>The community has a major problem with one of either</p> <ul style="list-style-type: none"> - the clean water supply <p>OR</p> <ul style="list-style-type: none"> - waste water systems, leading to a significant shortage of clean water supply or significant impact on water quality due to contamination during and after floods. <p>There are not appropriate means to manage water.</p>	<p>The community has significant problems with both</p> <ul style="list-style-type: none"> - the clean water supply <p>AND</p> <ul style="list-style-type: none"> - the waste water systems. <p>No drinking and service water during and after floods.</p> <p>OR</p> <p>There is no functioning water supply.</p>

Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	During flooding, which of the following clean water sources can be affected by flooding for your household? Please tick all options that apply.	Piped water for drinking Piped water for livelihood activities Well water for drinking Well water for livelihood activities Open water source (river, lake) for drinking Open water source for livelihood activities (river, lake) Water truck or other remote services for drinking Water truck or other remote services for livelihood activities I don't have access to clean water None of our water sources will be affected I don't know
Household	What precautions do you take in your household for the clean water sources that are affected by flooding? Please tick all options that apply.	We use chlorine tablets We boil water We filter water We cannot take any measures against the contaminated water Our water will not be contaminated I don't know
Household	Can you use the sanitation facilities normally during and after floods?	Yes No We don't have sanitation facilities I don't know



Household	Which problems occur with the sanitation facilities in your household during floods? Please tick all options that apply.	We don't have problems with our sanitation facilities during floods They get damaged They get destroyed They get blocked They will contaminate the surroundings We don't have sanitation facilities I don't know
Focus Group	How will clean water sources in the community be affected during and after flooding? Please tick all options that apply.	Water sources for drinking water are flood-proofed and not affected Water sources for livelihood activities are flood-proofed and not affected Water sources for drinking water are affected in some parts of the community Water sources for livelihood activities are affected in some parts of the community Water sources for drinking water are affected throughout the community Water sources for livelihood activities are affected throughout the community There is no safe drinking water for this community There is no water supply for livelihood activities in this community
Focus Group	What clean water emergency and contingency plan does the community have in place?	Water sources are flood-proofed and will not be affected There is a comprehensive, well-documented plan to protect and repair affected water sources There is a functioning plan to protect and repair affected water sources There is an informal plan but it is not sufficient to protect and repair affected water sources There is no plan but the households know how to help themselves by taking individual means (chlorine tablets; boiling; filtering etc.) There is no possibility for the community to restore the water supply There is no clean water supply in this community
Focus Group	During flooding, how will the installation and processes for waste water management be affected?	Waste water installations and treatment processes are flood-proof and not affected Waste water installations and treatment processes are partially affected but remain generally functional Waste water installations and treatment processes are significantly affected Waste water installations and treatment processes will be destroyed There is no waste water process and treatment in this community
Focus Group	What contingency plan does the community have in place for clean water provision during an emergency?	Waste water installations and treatment processes are flood-proofed and will not be affected There is a comprehensive, well-documented plan to protect and repair affected waste water installations and treatment processes There is a functioning plan to protect and repair affected waste water installations and treatment processes There is an informal plan but it is not sufficient to protect and repair waste water installations and treatment processes There is no such plan There is no waste water process and treatment in this community

Key Informant	How will clean water sources in the community be affected during and after flooding? Please tick all options that apply.	Water sources for drinking water are flood-proofed and not affected Water sources for livelihood activities are flood-proofed and not affected Water sources for drinking water are affected in some parts of the community Water sources for livelihood activities are affected in some parts of the community Water sources for drinking water are affected throughout the community Water sources for livelihood activities are affected throughout the community There is no safe drinking water for this community There is no water supply for livelihood activities in this community I don't know
Key Informant	What clean water emergency and contingency plan does the community have in place?	Water sources are flood-proofed and will not be affected There is a comprehensive, well-documented plan to protect and repair affected water sources There is a functioning plan to protect and repair affected water sources There is an informal plan but it is not sufficient to protect and repair affected water sources There is no plan but the households know how to help themselves by taking individual means (chlorine tablets; boiling; filtering etc.) There is no possibility for the community to restore the water supply There is no clean water supply in this community I don't know
Key Informant	During flooding, how will the installation and processes for waste water management be affected?	Waste water installations and treatment processes are flood-proofed and not affected Waste water installations and treatment processes are partially affected but remain generally functional Waste water installations and treatment processes are significantly affected Waste water installations and treatment processes will be destroyed There is no waste water process and treatment in this community I don't know
Key Informant	What contingency plan for waste water installations and processes does the community have in place?	Waste water installations and treatment processes are flood-proofed and will not be affected There is a comprehensive, well-documented plan to protect and repair affected waste water installations and treatment processes There is a functioning plan to protect and repair affected waste water installations and treatment processes There is an informal plan but it is not sufficient to protect and repair waste water installations and treatment processes There is no such plan There is no waste water process and treatment in this community I don't know
2nd Source	What clean water supply flood protection is in place for this community?	The community has a reliable clean water supply that remains fully functional during and after flooding The community has a clean water supply with minimal interruptions during and after flooding The community clean water supply will be significantly interrupted The community



		clean water supply will be destroyed during flooding There is no clean water supply in this community
2nd Source	What clean water emergency and contingency plan does the community have in place?	Water sources are flood-proofed and will not be affected There is a comprehensive, well-documented plan to protect and repair affected water sources There is a functioning plan to protect and repair affected water sources There is an informal plan but it is not sufficient to protect and repair affected water sources There is no plan but the households know how to help themselves by taking individual means (chlorine tablets; boiling; filtering etc.) There is no possibility for the community to restore the water supply There is no clean water supply in this community
2nd Source	What flood protection is in place for the waste water installation and procedures?	The community has a reliable waste water management that is fully protected and will remain functional during and after flooding The community has a somewhat protected waste water management with minimal interruptions during and after flooding The community waste water processes is mostly unprotected and will be significantly interrupted The community waste water processes will be destroyed during flooding There is no waste water process in this community
2nd Source	What contingency plan for waste water installations and processes does the community have in place?	Waste water installations and treatment processes are flood-proof and will not be affected There is a comprehensive, well-documented plan to protect and repair affected waste water installations and treatment processes There is a functioning plan to protect and repair affected waste water installations and treatment processes There is an informal plan but it is not sufficient to protect and repair waste water installations and treatment processes There is no such plan There is no waste water process and treatment in this community

Physical Capital – P11: Flood waste contamination

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Robustness	Community Level	Response	Lifelines		

Definition: This source looks at the potential for environmental contamination or waste-inflicted flooding issues, affecting both the environment ('natural capital') as well as the people living in the community. Issues include how flood waters lead to waste contaminating the environment, how flood conditions affect the (formal and informal) waste collection services, how this may create health issues or exacerbate the flooding due to clogged drainage, and how clogged drains and waste-inflicted waterways exacerbate flooding.

Notes: Consider the following: How do the waste deposition and waste collection systems work during and after floods? Is waste being collected as in normal conditions? Is there a potential that waste is flooded into the river, ocean etc.? Would waste be shifted by the flood to reach to and contaminate fragile environments? Can this create subsequent health problems? Would waste block drains and natural water flows? This source should be assessed both for the waste situation where it originates (i.e. in households and businesses) as well as where the waste gets deposited and how that waste disposal could be affected by the flood. Also assess informal waste disposal systems (feed to animals, burn, etc.) and whether this can continue to function under flood condition.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
Waste collection services and waste disposal sites remain fully operational during and after floods and do not cause contamination, health issues or blockages.	Waste collection services and waste disposal sites remain generally functional, with minimal disruption and contamination potential that will not cause disruptions, significant health issues, major blockages or major clean-up issues.	- Waste collection services OR - Waste disposal sites are significantly impacted with large disruptions, blockages and contamination consequences for health or clean-up issues.	- Waste collection services AND - Waste disposal sites both are significantly impacted with large disruptions, blockages and contamination consequences for health or clean-up issues.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	How will the waste collection procedures work during and after flooding?	The waste from our household will be collected normally The waste collection procedures will be impaired for some time The waste collection procedures will not function for some time The waste will become a big problem There is no system for waste collection for our household I don't know
Household	Does household waste in general and/or from the waste disposal sites create a problem for your household during and after flooding?	No, they do not cause any problems Yes, they cause some contamination Yes, they cause significant contamination There are no such systems in place for our household I don't know
Household	Does waste, from within the community or flowing into it from other places, create blockages, clog drainage and/or exacerbate flooding?	No, they do not cause any problems Yes, waste causes some additional flood problems Yes, waste causes significant additional flood problems Yes, waste blockages and drainage issues are the main problems for our flood situations I don't know
Focus Group	How does the formal waste collection system work during and after flooding?	The formal waste collection system in this community will continue to function normally The formal waste collection system will be temporarily impaired in parts of the community The formal waste collection system will be temporarily impaired in all of the community The formal waste collection system will be affected long-term There is no formal waste collection system in this community
Focus Group	Is there an informal waste collection system that helps waste to be collected during and after floods?	There is an informal waste collection system that functions during and after floods There is an informal waste collection system that will provide some benefit during and after floods There is an informal waste collection system but it does not function during and after floods There is no informal waste collection system in this community
Focus Group	Does household waste in general and/or from the waste disposal sites create a contamination problem during and after floods in this community?	No, they do not cause any problems Yes, they cause some contamination Yes they cause some contamination that affect most of the community Yes, they cause significant contamination that affect most of the community There is no waste collection system in our community

Focus Group	Does waste, from within the community or flowing into it from other places, create blockages, clog drainage and/or exacerbate flooding?	No, they do not cause any problems Yes, waste causes some additional flood problems Yes, waste causes significant additional flood problems Yes, waste blockages and drainage issues are the main problems for our flood situations
Key Informant	How does the formal waste collection system work during and after flooding?	The formal waste collection system in this community will continue to function normally The formal waste collection system will be temporarily impaired in parts of the community The formal waste collection system will be temporarily impaired in all of the community The formal waste collection system will be affected long-term There is no formal waste collection system in this community I don't know
Key Informant	Is there an informal waste collection system that helps waste to be collected during and after floods?	There is an informal waste collection system that functions during and after floods There is an informal waste collection system that will provide some benefit during and after floods There is an informal waste collection system but they do not function during and after floods There is no informal waste collection system in this community I don't know
Key Informant	Does household waste in general and/or from the waste disposal sites create a contamination problem during and after floods in this community?	Yes, they cause significant contamination that affect most of the community Yes they cause some contamination that affect most of the community Yes, they cause some contamination No, they do not cause any problems There is no waste collection system in our community I don't know
Key Informant	Does waste, from within the community or flowing into it from other places, create blockages, clog drainage and/or exacerbate flooding?	No, they do not cause any problems Yes, waste causes some additional flood problems Yes, waste causes significant additional flood problems Yes, waste blockages and drainage issues are the main problems for our flood situations I don't know
2nd Source	How does the formal waste collection system work during and after flooding?	The formal waste collection system in this community will continue to function normally The formal waste collection system will be temporarily impaired in parts of the community The formal waste collection system will be temporarily impaired in all of the community The formal waste collection system will be affected long-term There is no formal waste collection system in this community



2nd Source	Is there an informal waste collection system that helps waste to be collected during and after floods?	There is an informal waste collection system that functions during and after floods There is an informal waste collection system that will provide some benefit during and after floods There is an informal waste collection system but they do not function during and after floods There is no informal waste collection system in this community
2nd Source	Does household waste in general and/or from the waste disposal sites create a contamination problem during and after floods in this community?	No, they do not cause any problems Yes, they cause some contamination Yes they cause some contamination that affect most of the community Yes, they cause significant contamination that affect most of the community There is no waste collection system in this community
2nd Source	Does waste, from within the community or flowing into it from other places, create blockages, clog drainage and/or exacerbate flooding?	No, they do not cause any problems Yes, waste causes some additional flood problems Yes, waste causes significant additional flood problems Yes, waste blockages and drainage issues are the main problems for our flood situations

Physical Capital – P12: Flood energy supply

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Redundancy	Community Level	Recovery	Lifelines		

Definition: The continuity of the energy and fuel supply is essential during crisis conditions. It helps safeguard the community's wellbeing and their daily livelihood activities, and allows emergency services to deliver urgent intervention.

Notes: Assess the energy and fuel supplies and how they can be affected in flood conditions:

- How do the energy and fuel supplies change during and after floods
- Is there continuity of services in terms of reliability, quality and accessibility for the entire community

Note: “Non electrical fuel supply” refers to sources of supply for heating/cooking such as firewood, for lighting as well as the fuel needed for transportation and large machinery. It may be that electricity supplies are disrupted but that adequate supplies of such fuel enables continuation of basic daily activities. If this is the case you would be expected to grade the source at C.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
Community has fully protected energy and fuel supply sources such that there is no interruption due to flooding.	Energy sources are affected by flooding but continue to function adequately.	Energy and fuel supply sources are affected by flooding and cannot function adequately. Alternative, ad-hoc supplies provide fuel for heating/cooking.	Community loses all their energy and fuel sources during floods which are required for their daily activities.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Do you lose fuel supplies to perform essential tasks and activities during and after flooding?	No, our fuel supply is not affected by flooding Yes, our fuel supply may be affected but we have a backup source Yes, our fuel supply is severely affected and we cannot perform essential tasks I don't know
Household	In the case of flooding, will the community help to provide emergency fuel supplies for those households who may need it?	Yes, the community has plans in place to provide emergency fuel supplies Yes, the community usually provides emergency fuel supplies No, the community has no plan to provide emergency fuel supplies I don't know
Focus Group	Is the community's ability to carry out essential tasks and activities which require electricity affected during and after flooding?	No, the electricity supply is not affected by flooding Yes, the electricity may be affected in some parts of the community, but there is a backup source or system Yes, the electricity is severely affected in some parts of the community, and there is no backup source or system Yes, the electricity is affected in all of the community
Focus Group	Does the community lose fuel supplies to perform essential tasks and activities during and after flooding?	No, the fuel supply is not affected by flooding Yes, the fuel supply may be affected in some parts of the community, but there is a backup source Yes, the fuel supply is severely affected in some parts of the community, and there is no backup source Yes, the fuel supply is affected in all of the community
Focus Group	In the case of flooding, will the community help to provide emergency fuel supplies for those households who may need it?	Yes, the community has plans in place to provide emergency fuel supplies Yes, the community usually provides emergency fuel supplies No, the community has no plan to provide emergency fuel supplies
Key Informant	Is the community's ability to carry out essential tasks and activities which require electricity affected during and after flooding?	No, the electricity supply is not affected by flooding Yes, the electricity may be affected in some parts of the community, but there is a backup source or system Yes, the electricity is severely affected in some parts of the community, and there is no backup source or system Yes, the electricity is affected in all of the community I don't know
Key Informant	Does the community lose fuel supplies to perform essential tasks	No, the fuel supply is not affected by flooding Yes, the fuel supply may be affected in some parts of the community, but there is a backup source Yes, the fuel supply is severely

	and activities during and after flooding?	affected in some parts of the community, and there is no backup source Yes, the fuel supply is affected in all of the community I don't know
Key Informant	In the case of flooding, will the community help to provide emergency fuel supplies for those households who may need it?	Yes, the community has plans in place to provide emergency fuel supplies Yes, the community usually provides emergency fuel supplies No, the community has no plan to provide emergency fuel supplies I don't know
2nd Source	Is the community's ability to carry out essential tasks and activities which require electricity affected during and after flooding?	No, the electricity supply is not affected by flooding Yes, the electricity may be affected in some parts of the community, but there is a backup source or system Yes, the electricity is severely affected in some parts of the community, and there is no backup source or system Yes, the electricity is affected in all of the community
2nd Source	Does the community lose fuel supplies to perform essential tasks and activities during and after flooding?	No, the fuel supply is not affected by flooding Yes, the fuel supply may be affected in some parts of the community, but there is a backup source Yes, the fuel supply is severely affected in some parts of the community, and there is no backup source Yes, the fuel supply is affected in all of the community
2nd Source	In the case of flooding, will the community help to provide emergency fuel supplies for those households who may need it?	Yes, the community has plans in place to provide emergency fuel supplies Yes, the community usually provides emergency fuel supplies No, the community has no plan to provide emergency fuel supplies



Social Capital – S01: Community participation in flood related activities

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Resourcefulness	Community Level	Preparedness	Life and Health		Yes

Definition: This source is about the degree of participation of community members in flood related activities (e.g. flood awareness raising campaigns, community preparedness trainings, or local response teams). It looks into the degree of responsibility and engagement of community members and the extent to which community members are part of any clubs, associations or organizations (formal or informal) that have flood prevention, preparedness, and response as their main aim.

Notes: A high proportion of the community: refers to a proportion of greater than 80% of the community

A moderate proportion: refers to approximately 50-80% of the community

A low proportion: refers to 20-49% of the community

A very low proportion: refers to less than 20% of the community

High levels of social participation and connectedness contribute to the overall wellbeing and resilience of communities and individuals. Social and cultural networks, especially those that are geared towards information sharing, tend to help build more self-reliant communities.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
A high proportion of the community participates in regular flood related activities. High number of opportunities for engagement are available for different groups in the community.	A moderate proportion of the community participates in regular flood related activities. Moderate number of opportunities for engagement are available for different groups in the community.	A low proportion of the community participates in regular flood related activities. Low number of opportunities for engagement are available for different groups in the community.	A very low proportion of the community participates in regular flood related activities or very low number or no opportunities for engagement are available for different groups in the community.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Do community flood related activities (formal or informal) for flood prevention, preparedness or response exist?	Yes No I don't know
Household	Are you involved in flood related activities (formal or informal) for your community?	Yes No I don't know
Household	How frequently do you participate in flood related activities?	Frequently participate Occasionally participate Rarely participate Never participate I don't know
Household	Are flood related activities inclusive of both men and women and all relevant vulnerable (physically, socially or economically vulnerable) groups?	High proportion of the flood related activities are inclusive Moderate proportion of the flood related activities are inclusive A low proportion of the flood related activities are inclusive A very low proportion of the flood related activities are inclusive
Focus Group	Do community flood related activities (formal or informal) for flood prevention, preparedness or response exist?	Yes No I don't know
Focus Group	Do community members participate in flood related activities (formal or informal)?	A high proportion participates A moderate proportion participates A low proportion participates A very low proportion participates
Focus Group	How frequently do community members participate in flood related activities?	Frequently participate Occasionally participate Rarely participate Never participate I don't know
Focus Group	Are flood related activities inclusive of both men and women and all relevant vulnerable (physically, socially or economically vulnerable) groups?	High proportion of the flood related activities are inclusive Moderate proportion of the flood related activities are inclusive A low proportion of the flood related activities are inclusive A very low proportion of the flood related activities are inclusive



Key Informant	Do community flood related activities (formal or informal) for flood prevention, preparedness or response exist?	Yes No I don't know
Key Informant	Do community members participate in flood related activities (formal or informal) ?	A high proportion participates A moderate proportion participates A low proportion participates A very low proportion participates
Key Informant	How frequently do community members participate in flood related activities?	Frequently participate Occasionally participate Rarely participate Never participate I don't know
Key Informant	Are flood related activities inclusive of both men and women and all relevant vulnerable (physically, socially or economically vulnerable) groups?	High proportion of the flood related activities are inclusive Moderate proportion of the flood related activities are inclusive A low proportion of the flood related activities are inclusive A very low proportion of the flood related activities are inclusive

Social Capital – S02: External flood response and recovery services

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Resourcefulness	Enabling Environment	Preparedness	Life and Health	Yes	

Definition: This source is about external emergency services addressing community flood response and recovery. It is also an evaluation of the degree of quality in the external services provision, which may be disaggregated in terms of relevance, timeliness, confidence levels in the service, and confidence levels in the equitable delivery and impartiality of the services.

Notes: A high proportion of the community: refers to a proportion of greater than 80% of the community

A moderate proportion: refers to approximately 50-80% of the community

A low proportion: refers to 20-49% of the community

A very low proportion: refers to less than 20% of the community

These community external flood services could take the form of government agencies or humanitarian actors (e.g. National Red Cross Societies, Non-government organizations, etc).

A grade criteria	B grade criteria	C grade criteria	D grade criteria
A high proportion of the community has access to the external emergency services addressing flood response and recovery. Services are qualified as high in their effectiveness because they are timely, relevant and impartial.	A moderate proportion of the community has access to the external emergency services addressing flood response and recovery. Services are qualified as moderate in their effectiveness because they are usually timely, relevant and impartial.	A low proportion of the community has access to the external emergency services addressing flood response and recovery. Services are qualified as low and ineffective because they are rarely timely, relevant, or impartial.	A very low proportion of the community has access to external emergency services addressing flood response and recovery. Services are qualified as highly ineffective because they are not timely, relevant, or impartial.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Does the the community have access to external flood response services?	A high proportion of the community has access A moderate proportion of the community has access A low proportion of the community has access A very low proportion of the community has access I don't know
Household	Does the the community have access to external flood recovery services?	A high proportion of the community has access A moderate proportion of the community has access A low proportion of the community has access A very low proportion of the community has access I don't know
Household	How satisfied were you with the quality of the external flood response and/or recovery services provided?	Highly effective services Moderately effective services Ineffective services Very ineffective services I don't know or no services provided
Focus Group	Does the the community have access to external flood response services?	A high proportion of the community has access A moderate proportion of the community has access A low proportion of the community has access A very low proportion of the community has access I don't know
Focus Group	Does the the community have access to external flood recovery services?	A high proportion of the community has access A moderate proportion of the community has access A low proportion of the community has access A very low proportion of the community has access I don't know
Focus Group	How satisfied was the community with the quality of the external flood response and/or recovery services provided?	Highly effective services Moderately effective services Ineffective services Very ineffective services I don't know or no services provided
Key Informant	Does the the community have access to external flood response services?	A high proportion of the community has access A moderate proportion of the community has access A low proportion of the community has access A very low proportion of the community has access I don't know
Key Informant	Does the the community have access to external flood recovery services?	A high proportion of the community has access A moderate proportion of the community has access A low proportion of the community has access A very low proportion of the community has access I don't know

Key Informant	How satisfied was the community with the quality of the external flood response and/or recovery services provided?	Highly effective services Moderately effective services Ineffective services Very ineffective services I don't know or no services provided
Key Informant	Are there up to date formal written agreements in place between the community and external authorities for flood response and recovery services?	Yes we have formal agreements We have some formal/informal agreements There are no formal/informal agreements I don't know



Social Capital – S03: Community safety

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Robustness	Community Level	Recovery	Life and Health		Yes

Definition: This source aims to understand to what extent the community members, inclusive of all relevant vulnerable (physically, socially or economically vulnerable) groups, feel safe in the community before a flood occurs and whether there is a change in community safety during and after the occurrence of a flood.

Notes: It is important to understand whether men, women, boys, girls, elderly people and people living with disabilities (physical or mental) experience the same feelings of security or insecurity or whether it differs between these groups.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
A high number of community members feel generally safe in the community. There is a strong sense of social (norms) cohesion in place that helps prevent anti-social behaviour during and post-flooding. There are no indications of heightened vulnerability for all relevant vulnerable (physically, socially or economically) groups.	A moderate number of community members feel generally safe in the community. There is a reasonable level of social (norms) cohesion in place that helps prevent anti-social behaviour during and post-flooding. There are low indications of heightened vulnerability for all relevant vulnerable (physically, socially or economically) groups.	A low number of community members feel generally safe in the community. Weak social (norms) cohesion may lead to anti-social behaviour during and post-flooding. There are some moderate indications of heightened vulnerability for all relevant vulnerable (physically, socially or economically) groups.	Community members feel generally unsafe in the community. Low social (norms) cohesion leads to anti-social behaviour during and post-flooding. There are high indications of heightened vulnerability for all relevant vulnerable (physically, socially or economically) groups.

Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Is the community considered generally safe for both men and women and for all physically, socially or economically vulnerable groups?	Yes No I don't know
Household	Is there is a change in community safety during and after the occurrence of a flood (inclusive of all relevant vulnerable: physically, socially or economically groups?	Yes No I don't know
Household	Do you have confidence in the organizations responsible for maintaining safety during and after the occurrence of a flood in the community?	High confidence Moderate confidence Low confidence Very low confidence I don't know
Focus Group	Is the community considered generally safe for both men and women and for all physically, socially or economically vulnerable groups?	Yes No I don't know
Focus Group	Is there is a change in community safety during and after the occurrence of a flood (inclusive of all relevant vulnerable: physically, socially or economically groups?	Yes No I don't know
Focus Group	Do you have confidence in the organizations responsible for maintaining safety during and after the occurrence of a flood in the community?	High confidence Moderate confidence Low confidence Very low confidence I don't know
Key Informant	Is the community considered generally safe for both men and women and for all physically, socially or economically vulnerable groups?	Yes No I don't know



Key Informant	Is there is a change in community safety during and after the occurrence of a flood (inclusive of all relevant vulnerable: physically, socially or economically groups?	Yes No I don't know
Key Informant	Do you have confidence in the organizations responsible for maintaining safety during and after the occurrence of a flood in the community?	High confidence Moderate confidence Low confidence Very low confidence I don't know



Social Capital – S04: Community disaster risk management planning

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Rapidity	Community Level	Prospective Risk Reduction	Governance	Yes	

Definition: This source is about confirming the existence of a community disaster risk management plan and evaluating its planning process. The plan and planning process may be independent or part of a broader community development plan/process. Such a process would provide a shared vision about future development in the community and strategies to protect development gains from floods.

Notes: A community disaster risk management plan often (but not exclusively) focuses on the following main areas:

- Provides local community members with a workable emergency system to minimize loss of life and property.
- A basic outline of shelters, community welfare, and a relief system as well as some focus on evacuation planning that will make preparation, response and recovery from a disaster more effective.
- An emergency contact list and identification of vulnerable populations living within the community.
- A basic guideline for the community as to who is responsible for what and who is in charge of critical functions in the management of an emergency.
- An overall framework for reducing risks in the community including prevention and preparedness actions.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
A community disaster risk management plan is in place and was developed with a high degree of local participation and inclusion. There is a high degree of communication and engagement with community members about the disaster risk management plan, and it is widely accepted within the community.	A community disaster risk management plan is in place and was developed with a moderate degree of local participation and inclusion. There is a moderate degree of communication to and engagement with community members about the disaster risk management plan, and it is fairly well accepted within the community.	A community disaster risk management plan is in place and was developed with little or no local participation or inclusion. There is little or no communication or engagement with community members about the disaster risk management plan, and there is little or no acceptance of it within the community.	No community disaster risk management plan in place.

Data collection methods, questions and answer options for this source:



Method	Question	Answer Options
Household	Are you aware of the existence of community disaster risk management plan?	Yes No I don't know
Household	If there is a community disaster risk management plan, was it planned and developed in a participatory and inclusive way?	A high proportion of the community participated (directly or indirectly - formally or informally) in its development A moderate proportion of the community participated (directly or indirectly - formally or informally) in its development A low proportion of the community participated (directly or indirectly - formally or informally) in its development A very low proportion of the community participated (directly or indirectly - formally or informally) in its development I don't know There is no community disaster risk management plan
Household	If there is a community disaster risk management plan, was it communicated to and discussed (socialized) with the community?	High degree of communication and socialization of community flood plan Moderate degree of communication and socialization of community flood plan Low degree of communication and socialization of community flood plan Very low degree of communication and socialization of community flood plan I don't know There is no community disaster risk management plan
Focus Group	Are you aware of the existence of community disaster risk management plan?	Yes No I don't know
Focus Group	If there is a community disaster risk management plan, was it planned and developed in a participatory and inclusive way?	A high proportion of the community participated (directly or indirectly - formally or informally) in its development A moderate proportion of the community participated (directly or indirectly - formally or informally) in its development A low proportion of the community participated (directly or indirectly - formally or informally) in its development A very low proportion of the community participated (directly or indirectly - formally or informally) in its development I don't know There is no community disaster risk management plan

Focus Group	If there is a community disaster risk management plan, was it communicated to and discussed (socialized) with the community?	High degree of communication and socialization of community flood plan Moderate degree of communication and socialization of community flood plan Low degree of communication and socialization of community flood plan Very low degree of communication and socialization of community flood plan I don't know There is no community disaster risk management plan
Key Informant	Are you aware of the existence of community disaster risk management plan?	Yes No I don't know
Key Informant	If there is a community disaster risk management plan, was it planned and developed in a participatory and inclusive way?	A high proportion of the community participated (directly or indirectly - formally or informally) in its development A moderate proportion of the community participated (directly or indirectly - formally or informally) in its development A low proportion of the community participated (directly or indirectly - formally or informally) in its development A very low proportion of the community participated (directly or indirectly - formally or informally) in its development I don't know There is no community disaster risk management plan
Key Informant	If there is a community disaster risk management plan, was it communicated to and discussed (socialized) with the community?	High degree of communication and socialization of community flood plan Moderate degree of communication and socialization of community flood plan Low degree of communication and socialization of community flood plan Very low degree of communication and socialization of community flood plan I don't know There is no community disaster risk management plan



Social Capital – S05: Community structures for mutual assistance

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Resourcefulness	Community Level	Response	Social Norms		

Definition: This source is about evaluating the degree of solidarity within the community and to what extent it ensures mutual assistance in the event of floods. Also to explore if formal or informal social networks are in place to facilitate the delivery of mutual assistance and play the role of a 'safety net' in the event of floods. Additionally, if there is reliable information sharing between these networks and flood management services.

Notes: Social networks can serve as a 'safety net' for flood affected disaster stricken communities, for example, through the sharing of emergency supplies (e.g. food, water, medical, shelter, etc.). Possible markers include: percentage of community members who report being part of an informal or formal social network; and organizing mutual assistance during to flood events.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
Formal or informal social networks are in place to facilitate the delivery of mutual assistance and play the role of a 'safety net' in the event of floods. There is reliable information sharing between these networks and flood management services.	Some level of formal or informal networks exist and would likely facilitate the delivery of mutual assistance and play the role of a 'safety net' in the event of floods. There is some information sharing between these networks and flood management services.	Formal or informal networks are too weak to effectively facilitate mutual assistance or serve as a 'safety net' in the event of floods. There is no information sharing between these networks and flood management services.	No formal or informal social networks are in place to facilitate the delivery of mutual assistance and play the role of a 'safety net' in the event of floods.

Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Which of the following most accurately describes the social relationships in your community in the event of floods?	Very close and supportive of each other Somewhat close and supportive of each other Not close or supportive of each other I don't know
Household	Are there formal or informal networks in the community that help people provide support to each in the event of a flood?	Yes No I don't know
Household	How is flood support provided to vulnerable (physically, socially or economically) people in the community?	Through the families Through the wider community networks Combination of sources of support No such support is provided Majority don't know
Focus Group	Which of the following most accurately describes the social relationships in your community in the event of floods?	Very close and supportive of each other Somewhat close and supportive of each other Not close or supportive of each other I don't know
Focus Group	Are there formal or informal networks in the community that help people provide support to each in the event of a flood?	Yes No I don't know
Focus Group	How is flood support provided to vulnerable (physically, socially or economically) people in the community?	Through the families Through the wider community networks Combination of sources of support No such support is provided Majority don't know
Key Informant	Which of the following most accurately describes the social relationships in your community in the event of floods?	Very close and supportive of each other Somewhat close and supportive of each other Not close or supportive of each other I don't know



Key Informant	Are there formal or informal networks in the community that help people provide support to each in the event of a flood?	Yes No I don't know
Key Informant	How is flood support provided to vulnerable (physically, socially or economically) people in the community?	Through the families Through the wider community networks Combination of sources of support No such support is provided Majority don't know

Social Capital – S06: Community representative bodies

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Resourcefulness	Community Level	Corrective Risk Reduction	Governance	Yes	Yes

Definition: This source is about evaluating the local (formal or informal) community organizations/structures focused on flood coordination that are in place. Additionally, the assessment explores the degree of community participation in the community organizations and the representation of different social groups within them.

Notes: Possible markers include: existence of a representative community organization/structure (formal or informal) either dedicated to flood risk management (e.g. flood committee) or integrating flood risk management in the decision making; percentage of community members (who are of the body/structure) who report being satisfied with the set-up and operation of the representative body/structure.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
Local (formal or informal) community organizations/structures focused on flood coordination are in place, are active and are set-up and operate in line with the community's expectations. Participation is high and all social groups are represented.	Local (formal or informal) community organizations/structures focused on flood coordination exist but are relatively inactive. They tend to be activated in disasters but not in terms of flood preparedness. Moderate number of different social groups participate in these structures.	Local (formal or informal) community organizations/structures focused on flood coordination exist but they tend to be run by a handful of eager volunteers or do not have the broader buy-in of the community. Only a low number of different social groups participate in these structures.	There are no local (formal or informal) community organizations/structures for flood coordination.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Are there local (formal or informal) community organizations/structures focused on flood coordination?	Yes No I don't know
Household	Have you been involved in any local (formal or informal) community organizations/structures focused on flood coordination in the last 12 months?	Yes No I don't know
Household	Are local (formal or informal) community organizations/structures focused on flood coordination representative of both men and women and inclusive of all relevant vulnerable (physically, socially or economically vulnerable) groups in their planning/decision making?	Yes No I don't know
Focus Group	Are there local (formal or informal) community organizations/structures focused on flood coordination?	Yes No I don't know
Focus Group	Are community members generally involved in any local (formal or informal) community organizations/structures focused on flood coordination in the last 12 months?	Yes No I don't know
Focus Group	Are local (formal or informal) community organizations/structures focused on flood coordination representative of both men and women and inclusive of all relevant vulnerable (physically, socially or economically vulnerable) groups in their planning/decision making?	Yes No I don't know

Key Informant	Are there local (formal or informal) community organizations/structures focused on flood coordination?	Yes No I don't know
Key Informant	Are community members generally involved in any local (formal or informal) community organizations/structures focused on flood coordination in the last 12 months?	Yes No I don't know
Key Informant	Are local (formal or informal) community organizations/structures focused on flood coordination representative of both men and women and inclusive of all relevant vulnerable (physically, socially or economically vulnerable) groups in their planning/decision making?	Yes No I don't know



Social Capital – S07: Social inclusiveness

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Resourcefulness	Community Level	Corrective Risk Reduction	Social Norms		Yes

Definition: This source is about the inclusion and representation of different social groups, inclusive of all relevant vulnerable (physically, socially or economically vulnerable) groups in community decision making processes and in the development and management of flood resilience/DRR strategies and approaches.

Notes: Vulnerability in this context can be defined as the diminished capacity of a group to anticipate, cope with, resist and recover from the impact of a flood event. The concept is relative and dynamic. Groups may differ in their exposure to flood risk as a result of their social group, gender, ethnic identity, age and other factors.

Physical, economic, and social factors contribute to people's level of vulnerability and the extent of their capacity to resist, cope with and recover from hazards.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
All vulnerable groups are strongly represented in flood relevant decision making bodies and their specific concerns are being taken into consideration and addressed.	Most vulnerable groups are fairly well represented in flood relevant decision making bodies and their specific concerns are generally taken into consideration and addressed.	Vulnerable groups have a low level of representation in flood relevant decision making bodies and their specific concerns are rarely taken into consideration and addressed.	Vulnerable groups are not represented in flood relevant decision making bodies and their specific concerns are not being taken into consideration and addressed.

Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Is there a high level of representation from different vulnerable groups in community flood decision making bodies?	Yes Partially No I don't know
Household	Do flood preparedness, response or recovery plans (formal or informal) take into account people in the community with specific needs due to their age, gender, social, national or ethnic status, disability or other related factors?	Yes, plans take into account people in the community with specific needs Plans partially take into account people in the community with specific needs No flood disaster plans exist I don't know
Household	Are any social groups excluded from the community flood planning process?	Different social groups are not excluded from the community flood planning process Different social groups are partially excluded from the community flood planning process No community flood planning process I don't know
Focus Group	Is there a high level of representation from different vulnerable groups in community flood decision making bodies?	Yes Partially No I don't know
Focus Group	Do flood preparedness plans (formal or informal) take into account people in the community with specific needs due to their age, gender, social, national or ethnic status, disability or other related factors?	Yes Partially No, flood disaster plans I don't know
Focus Group	Are any social groups excluded from the community flood committee?	Yes No No community flood committee I don't know
Key Informant	Is there a high level of representation from different vulnerable groups in community flood decision making bodies?	Yes Partially No I don't know



Key Informant	Do flood preparedness plans (formal or informal) take into account people in the community with specific needs due to their age, gender, social, national or ethnic status, disability or other related factors?	Yes Partially No, flood disaster plans I don't know
Key Informant	Are any social groups excluded from the community flood committee?	Yes No No community flood committee I don't know



Social Capital – S08: Local leadership

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Resourcefulness	Community Level	Prospective Risk Reduction	Governance	Yes	

Definition: This source is about evaluating the degree of local (formal or informal) leadership for flood resilience. Focus on whether community leaders work to strengthen the knowledge of the wider community in flood resilience through, for example, advocacy, citizen engagement opportunities or peer leadership.

Notes: A high number of opportunities: refers to a proportion of greater than 80% of the community is invited to engage in flood resilience activities.

A moderate number of opportunities: refers to a proportion of 50-80% of the community is invited to engage in flood resilience activities.

A low number of opportunities: refers to a proportion of 20-49% of the community is invited to engage in flood resilience activities.

A very low number of opportunities: refers to a proportion of less than 20% of the community is invited to engage in flood resilience activities.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
Local leaders facilitate a high number of opportunities to strengthen the knowledge of the wider community in flood resilience through advocacy, citizen engagement opportunities or peer leadership.	Local leaders facilitate a moderate number of opportunities to strengthen the knowledge of the wider community in flood resilience through advocacy, citizen engagement opportunities or peer leadership.	Local leaders facilitate a low number of opportunities to strengthen the knowledge of the wider community in flood resilience through advocacy, citizen engagement opportunities or peer leadership.	Local leaders facilitate a very low number or no opportunities to strengthen the knowledge of the wider community in flood resilience through advocacy, citizen engagement opportunities or peer leadership.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Over the last 2 years, have local leaders (formal or informal) facilitated opportunities to strengthen the knowledge of the wider community in flood resilience through advocacy, citizen engagement opportunities or peer leadership?	Yes No I don't know
Household	How many opportunities have local leaders (formal or informal) facilitated to strengthen the flood resilience of the community over the past 2 years?	A high number of opportunities A moderate number of opportunities A low number of opportunities A very low number or no opportunities I don't know
Household	Are local leaders (formal or informal) generally knowledgeable about flood resilience?	High degree of knowledge regarding flood resilience Moderate degree of knowledge regarding flood resilience Low degree of knowledge regarding flood resilience I don't know
Focus Group	Over the last 2 years, have local leaders (formal or informal) facilitated opportunities to strengthen the knowledge of the wider community in flood resilience through advocacy, citizen engagement opportunities or peer leadership?	Yes No I don't know
Focus Group	How many opportunities have local leaders (formal or informal) facilitated to strengthen the flood resilience of the community over the past 2 years?	A high number of opportunities A moderate number of opportunities A low number of opportunities A very low number or no opportunities I don't know
Focus Group	Are local leaders (formal or informal) generally knowledgeable about flood resilience?	High degree of knowledge regarding flood resilience Moderate degree of knowledge regarding flood resilience Low degree of knowledge regarding flood resilience I don't know
Key Informant	Over the last 2 years, have local leaders (formal or informal) facilitated opportunities to strengthen the knowledge of the wider community in flood resilience	Yes No I don't know



	through advocacy, citizen engagement opportunities or peer leadership?	
Key Informant	How many opportunities have local leaders (formal or informal) facilitated to strengthen the flood resilience of the community over the past 2 years?	A high number of opportunities A moderate number of opportunities A low number of opportunities A very low number or no opportunities I don't know
Key Informant	Are local leaders (formal or informal) generally knowledgeable about flood resilience?	High degree of knowledge regarding flood resilience Moderate degree of knowledge regarding flood resilience Low degree of knowledge regarding flood resilience I don't know



Social Capital – S09: Inter-community flood coordination

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Resourcefulness	Community Level	Preparedness	Social Norms		

Definition: This source is about confirming the existence of inter-community flood coordination mechanisms (formal or informal). These can be in the form of inter-community services, for example: first aid/first responder or flood response teams which work across several communities; agreements to assist each other in flood management; a system to share and apply best practices; or a plan to support one another's vulnerable individuals/families.

Notes: Resilient communities have the capacity to sustain and build on good relationships with neighbouring communities who can and are willing to provide a wider supportive environment. Local resources often are not sufficient on their own to achieve satisfactory levels of resilience.

Examples for this source may include the existence of a cross-community local flood management structure and the number of meetings that have occurred within the cross-community structure in the past 24 months.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
Strong inter-community flood coordination mechanisms exist and are functional and effective in terms of having appropriate preparedness and response plans in place and channels of communication with neighbouring communities.	Some inter-community flood coordination mechanisms exist and are fairly functional and effective in terms of having appropriate preparedness and response plans in place and channels of communication with neighbouring communities.	Few inter-community flood coordination mechanisms exist and where they do, they have a low degree of functionality and effectiveness in terms of having appropriate preparedness and response plans in place and channels of communication with neighbouring communities.	No inter-community flood coordination mechanisms exist.

Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Household	Is there a formal or informal structure (e.g. committee) for inter-community flood coordination?	Yes No I don't know
Household	If there is a formal or informal structure (e.g. committee) responsible for inter-community flood coordination, is it effective in terms of having appropriate preparedness and response plans in place and channels of communication with neighbouring communities?	Highly effective inter-community coordination Moderately effective inter-community coordination Low effectiveness inter-community coordination No inter-community mechanisms in place I don't know
Household	If there is a formal or informal structure (e.g. committee) responsible for inter-community flood coordination, is it inclusive of both men and women and all relevant vulnerable (physically, socially or economically vulnerable) groups?	High degree of inclusiveness of both men and women and all relevant vulnerable groups Moderate degree of inclusiveness of both men and women and all relevant vulnerable groups Low degree of inclusiveness of both men and women and all relevant vulnerable groups No formal or informal structure responsible for inter-community flood coordination I don't know
Focus Group	Is there a formal or informal structure (e.g. committee) for inter-community flood coordination?	Yes No I don't know
Focus Group	If there is a formal or informal structure (e.g. committee) responsible for inter-community flood coordination, is it effective in terms of having appropriate preparedness and response plans in place and channels of communication with neighbouring communities?	Highly effective inter-community coordination Moderately effective inter-community coordination Low effectiveness inter-community coordination No inter-community mechanisms in place I don't know
Focus Group	If there is a formal or informal structure (e.g. committee) responsible for inter-community flood coordination, is it inclusive of both men and women	High degree of inclusiveness of both men and women and all relevant vulnerable groups Moderate degree of inclusiveness of both men and women and all relevant vulnerable groups Low degree of inclusiveness of both men and women and all relevant vulnerable groups No formal or



	and all relevant vulnerable (physically, socially or economically vulnerable) groups?	informal structure responsible for inter-community flood coordination I don't know
Key Informant	Is there a formal or informal structure (e.g. committee) for inter-community flood coordination?	Yes No I don't know
Key Informant	If there is a formal or informal structure (e.g. committee) responsible for inter-community flood coordination, is it effective in terms of having appropriate preparedness and response plans in place and channels of communication with neighbouring communities?	Highly effective inter-community coordination Moderately effective inter-community coordination Low effectiveness inter-community coordination No inter-community mechanisms in place I don't know
Key Informant	If there is a formal or informal structure (e.g. committee) responsible for inter-community flood coordination, is it inclusive of both men and women and all relevant vulnerable (physically, socially or economically vulnerable) groups?	High degree of inclusiveness of both men and women and all relevant vulnerable groups Moderate degree of inclusiveness of both men and women and all relevant vulnerable groups Low degree of inclusiveness of both men and women and all relevant vulnerable groups No formal or informal structure responsible for inter-community flood coordination I don't know

Social Capital – S10: Integrated flood management planning

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Resourcefulness	Enabling Environment	Corrective Risk Reduction	Governance	Yes	

Definition: This source is about confirming whether there is a watershed/basin scale management plan in place. The plan should include, for example, clear roles and responsibilities for stakeholders, both within the community as well as externally. It is critical that there is also coordinated action between the community and other stakeholders such as other watershed/river basin communities, local businesses, government and civil society actors so as to ensure that risks along the watershed/basin are prevented or managed (e.g. upstream to downstream).

Notes: This social capital aspect of this source focuses on how communities engage with the watershed/river basin scale flood management plan and what decision making space there is for community led action and response.

A grade criteria	B grade criteria	C grade criteria	D grade criteria
A watershed/river basin scale flood management plan is in place and stakeholders fully understand how to implement it. Relevant bodies/structures have recently carried out tests or simulations to ensure coordinated activities. The key various sectors and stakeholders are well represented and engaged in the activities.	A watershed/river basin scale flood management plan is in place and stakeholders have some understanding of how to implement it. Relevant bodies/structures have recently carried out tests or simulations to ensure coordinated activities. Some of the various sectors and key stakeholders were represented and engaged in the activities.	A watershed/river basin scale flood management plan is in place but stakeholders have little understanding of how to implement it. Relevant bodies/structures have not carried out tests or simulations to ensure coordinated activities. There was a low level of representation and engagement from the various sectors and key stakeholders.	There is no watershed/river basin scale flood management plan in place.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Key Informant	Are you aware of the existence of a watershed/river basin flood management plan?	Yes No I don't know
Key Informant	If yes, has it been widely communicated to key stakeholders in the community?	It was communicated to a high proportion of key local stakeholders It was communicated to a moderate proportion of key local stakeholders It was communicated to a low proportion of key local stakeholders It was communicated to a very low proportion of key local stakeholders No watershed/basin scale flood management plan in place I don't know
Key Informant	If yes, were relevant local stakeholders involved in the discussion or development of this plan?	A high proportion of relevant local stakeholders involved in the planning process A moderate proportion of relevant local stakeholders involved in the planning process A low proportion of relevant local stakeholders involved in the planning process A very low proportion of relevant local stakeholders involved in the planning process There is no watershed/basin scale flood management plan in place I don't know
2nd Source	Are you aware of the existence of a watershed/river basin flood management plan?	Yes No I don't know
2nd Source	If yes, has it been widely communicated to key stakeholders in the community?	It was communicated to a high proportion of key local stakeholders It was communicated to a moderate proportion of key local stakeholders It was communicated to a low proportion of key local stakeholders It was communicated to a very low proportion of key local stakeholders No watershed/basin scale flood management plan in place I don't know
2nd Source	If yes, were relevant local stakeholders involved in the discussion or development of this plan?	A high proportion of relevant local stakeholders involved in the planning process A moderate proportion of relevant local stakeholders involved in the planning process A low proportion of relevant local stakeholders involved in the planning process A very low proportion of relevant local stakeholders involved in the planning process There is no watershed/basin scale flood management plan in place I don't know



Social Capital – S11: National forecasting policy & plan

4R	Context	DRM cycle	Theme	Political Tick	SAD Tick
Resourcefulness	Enabling Environment	Preparedness	Governance	Yes	

Definition: This source is about confirming the existence of short and long term flood forecasting capabilities and the associated mechanisms for the delivery of relevant information at the community level.

Notes: Short term forecasting= days or weeks

Long term forecasting=month/s or up to one year

A grade criteria	B grade criteria	C grade criteria	D grade criteria
Short and long term forecasting capabilities exist and mechanisms for the delivery of relevant information at community level are in place and fully functioning.	Short and long term forecasting capabilities exist and some mechanisms for the delivery of relevant information at community level are in place and functioning.	Limited short and long term forecasting capabilities exist. There are only a few functioning mechanisms for the delivery of relevant information at community level.	No short or long term forecasting capabilities exist.



Data collection methods, questions and answer options for this source:

Method	Question	Answer Options
Key Informant	Do short and long term flood forecasting capabilities exist?	Yes, both short and long term flood forecasting capabilities exist Only long term flood forecasting capabilities exist Only short term flood forecasting capabilities exist No short or long term flood forecasting capabilities currently exist
Key Informant	If there are flood forecasting capabilities, are there mechanisms for the delivery of forecasting information at community level?	Yes, strong mechanisms for the delivery of forecasting information to communities exists Yes, limited mechanisms for the delivery of forecasting information to communities No forecasting capabilities currently exist
2nd Source	Do short and long term flood forecasting capabilities exist?	Yes, both short and long term flood forecasting capabilities exist Only long term flood forecasting capabilities exist Only short term flood forecasting capabilities exist No short or long term flood forecasting capabilities currently exist
2nd Source	If there are flood forecasting capabilities, are there mechanisms for the delivery of forecasting information at community level?	Yes, strong mechanisms for the delivery of forecasting information to communities exists Yes, limited mechanisms for the delivery of forecasting information to communities No forecasting capabilities currently exist